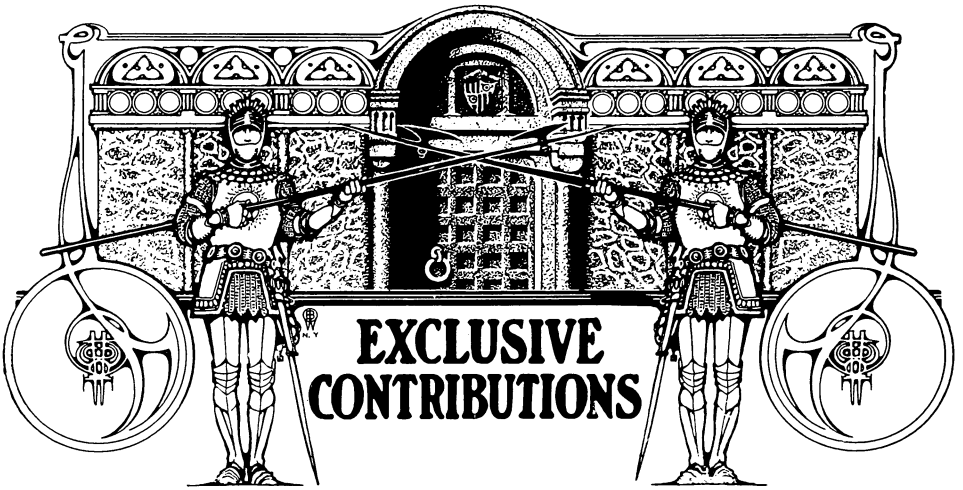
W. D. Miller.




# The Principles and Practice of Filling Teeth with Porcelain.*

By Dr. John Q. Byram, Indianapolis, Ind.

## Approximo-Incisal Cavities.

Approximo-incisal cavities may be divided into two classes: Approximo-incisal cavities involving but a small portion of the incisal angle and where no step is required for retentive resistance; and approximo-incisal cavities involving enough of the incisal angle to require a step for additional retentive resistance.

## Preparation of Cavities Without a Step.

The gingival margins should be slightly concave in a labio-lingual direction (Fig. 20 A). This gives the shortest possible bevel to the porcelain in the linguo-gingival region, thereby insuring less liability to fracture. The labial margin should be cut laterally far enough in the gingival region to avoid a frail margin of porcelain; it should unite with the gingival margin in the form of a curve and extend incisally in the form of a straight line (Fig. 21 A). The labial margin should run at right angles to the curve of the segment of the circle formed on the surface (Figs. 9 C and 17 B). The lingual margin should extend from the gingival wall to the incisal edge in a straight line, and it should be cut as far laterally as

the labial margin. This margin by being sufficiently extended in a gingival direction, should involve enough of the gingival ridge to provide for a thick mass of porcelain in this location (Fig. 21 B).

**Formation of the Cavity.**

The gingival wall should be slightly grooved and should form a right angle with the pulpal wall; it should extend far enough rootward to protect the gingival margin. A shallow groove should be cut from the labial to the lingual wall, but care is to be taken that this groove

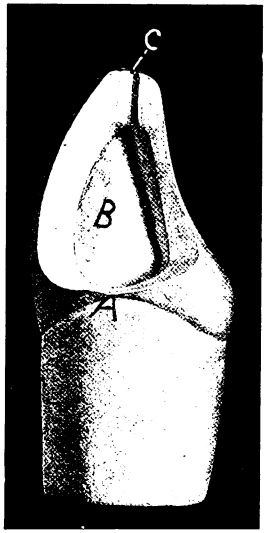



FIG. 20.

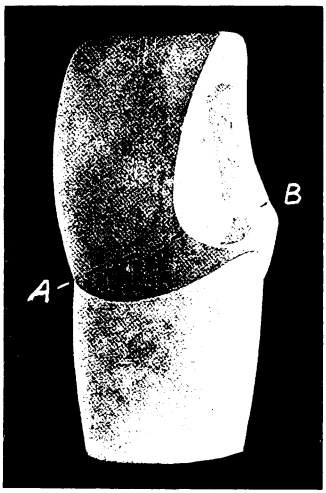



FIG. 21.

should not interfere with the withdrawal of the matrix (Fig. 16 A). A triangular cavity should then be cut between the labial and lingual walls, extending from the gingival to the incisal wall (Fig. 20 B). The labial and lingual walls should slightly diverge toward the margins, and the incisal wall should form a slightly obtuse angle with the pulpal wall, which should be convex so that the pulp in deep cavities may be protected. The cavity should be as deep as the pulp of the tooth will permit.

**Technique of Cavity Formation.**

The enamel should be removed with chisels and knife-edge stones. After the enamel margins have been properly formed, the triangular cavity should be cut in the dentine between the labial and lingual walls (Fig. 20 B), with the special hoe excavator (Fig. 6 B). In order to break the straight line of cement a shallow groove

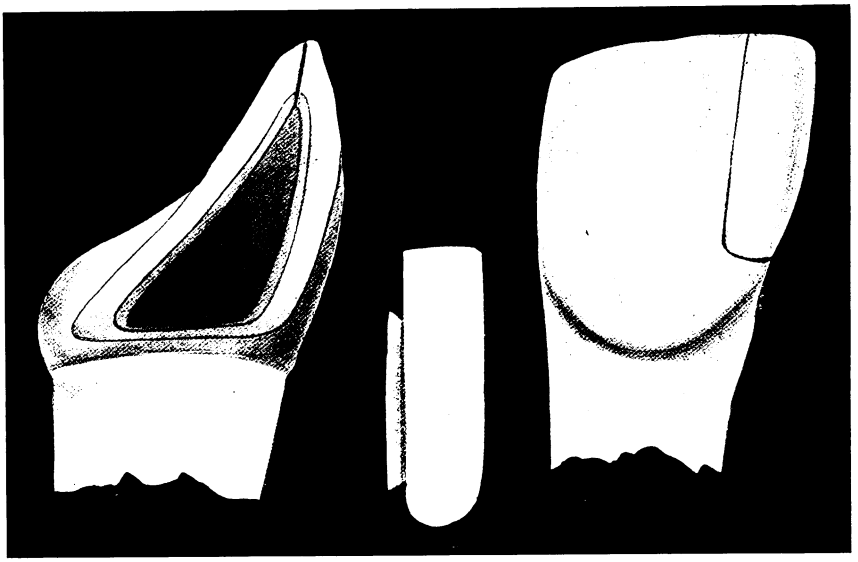


FIG. 22.

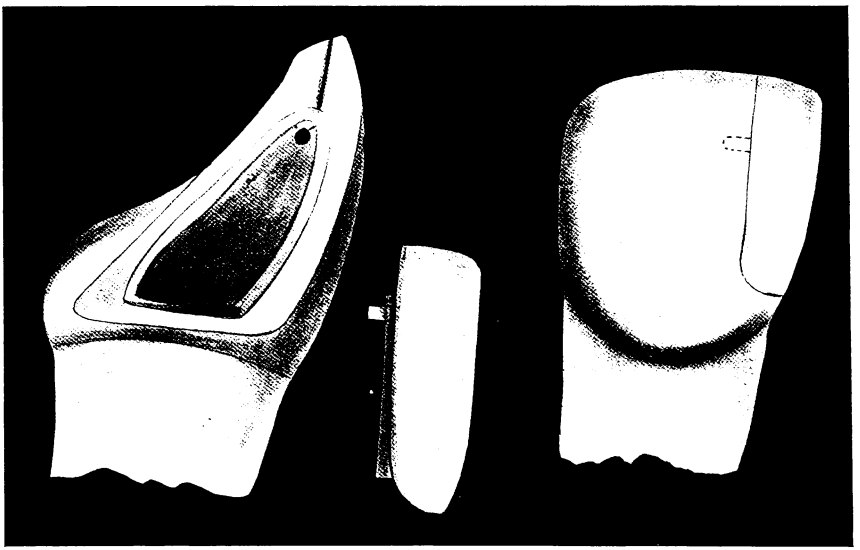


FIG. 23.

should be formed, with a fissure bur, extending from the incisal wall of the cavity to the incisal edge, between the labial and lingual enamel plates (Fig. 20 C). After the cavity has been prepared the margins of the cavity should be properly finished with sharp chisels, finishing burs, and Arkansas stones.

After the inlay has been constructed, a very shallow groove should

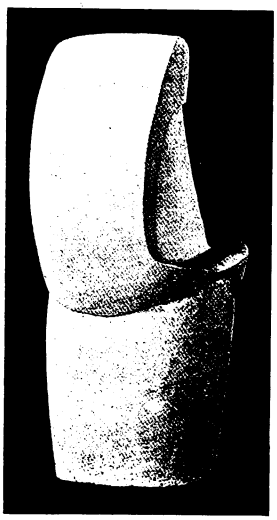


FIG. 24 A.

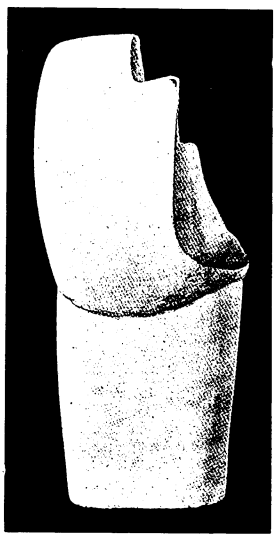


FIG. 24 B.

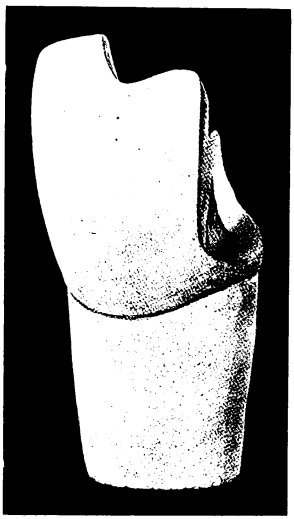


FIG. 24 C.

be made along the labial and lingual walls at their union with the pulpal wall, and a slight concavity should be made in the dentine of the incisal wall. Grooves should be formed along the walls of the ridge of the inlay which fits in the cavity. When the inlay is cemented into position, this gives it something of a mortised form of retention (Fig. 22).

In case only a shallow cavity can be cut between the labial and lingual walls, and more retentive resistance than this would yield is required, a hole, two mm. deep, running at right angles to the axis of the tooth, may be drilled between the enamel plates and as far from the incisal edge as the pulp will permit (Fig. 23). A threaded pin from three to four mm. long No. 19 gauge platinum wire is then inserted through and attached to the matrix. The pin becomes an integral part of the inlay, and may give the necessary retentive resistance in many cases. This method can not be used, however, unless sufficient space can

be secured for the insertion of the inlay. It is also contraindicated in those teeth, whose enamel plates are thin; for the resistance from the enamel plates or the porcelain would not be sufficient to retain the inlay, and the reflection from the platinum pin would affect the color of the enamel and the porcelain. The author believes that this method of cavity preparation is a poor one and questions the advisability of its use.

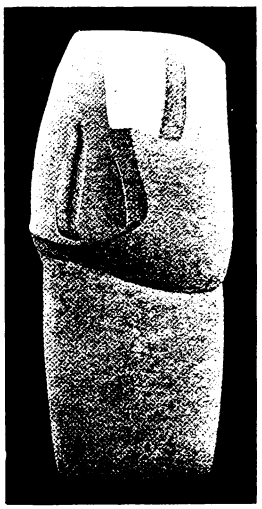


FIG. 25.

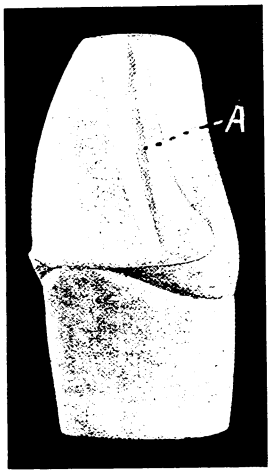



FIG. 26.

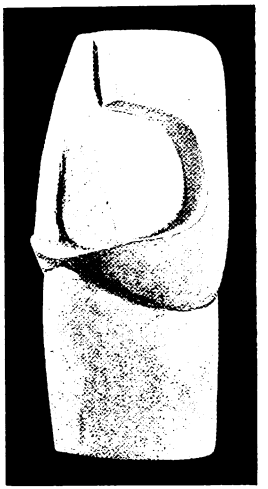


FIG. 27.

## Approximo-Incisal Cavities With Steps.

**Marginal Outline.**

The labial margin may extend from the gingival wall to the incisal edge in the form of a straight line (Fig. 24 A), or it may extend from the gingival margin to the incisal third in the form of a straight line, then extend laterally in the form of a curve (Fig. 24 B and C).

**Preparation of the Cavities.**

Since the necessity for retentive resistance increases in proportion to the increased width of the inlay, a step should be made in large approximo-incisal cavities to resist the tipping stress. The method of cavity formation is, in a measure, dependent upon the method of step formation. Steps may be formed by involving additional area of the lingual surface. They may involve only the incisal third, they may extend from the incisal edge to the gingival wall, or they may involve the middle and gingival thirds. They may also be formed by involving both labial and lingual plates in the incisal third.

**Step in Lingual Surface Only.**

A step may be formed involving only the lingual plate in the incisal third of those teeth with thick incisal edges (Fig. 25). It should involve at least one-half the thickness of the incisal edge and extend from three to four millimeters gingivally. The gingival wall of the step should form a right angle with the cancavity of the lingual surface. A slight groove may extend along the approximo-labial angle of the step in order to give additional retentive resistance. This method of step preparation is considered unsafe for general usage. It

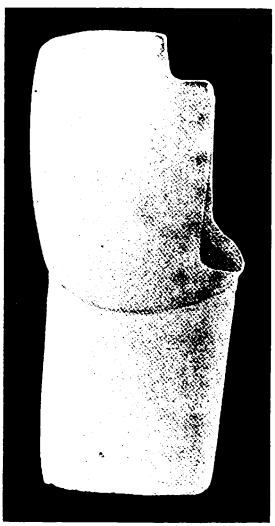


FIG. 28 A.

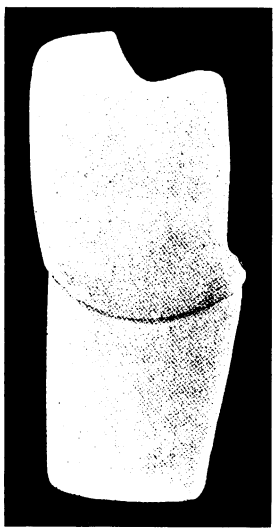


FIG. 28 B.

should never be used where great stress may be applied to the porcelain. The weak point of the inlay is at the union of the porcelain for the cavity and the step, and an undue amount of stress will cause it to fracture at this point.

In those cases in which the step extends from the incisal edge to the gingival wall this wall should be flat. The labial margin should unite with the gingival in the form of a curve and extend to the incisal edge in the form of a straight line. It should form a right angle with the mesio-distal curve of the labial surface. Enough of the labial wall should be involved to insure sound enamel supported by dentine, and it should be so prepared that it will form an obtuse angle with the pulpal wall. The lingual wall should extend laterally about two millimeters further than the

labial and should run parallel with it. The pulpal wall should be convex and form an acute angle with the pulpal wall of the step.

**Technique of Step and Cavity Preparation.**

After the frail walls of enamel have been removed with a chisel, a knife-edged carborundum should be used to remove the remaining enamel of the labial wall. A small narrow stone should then be used to grind the enamel on the lingual surface from the gingival wall to incisal edges. After the enamel has been partially

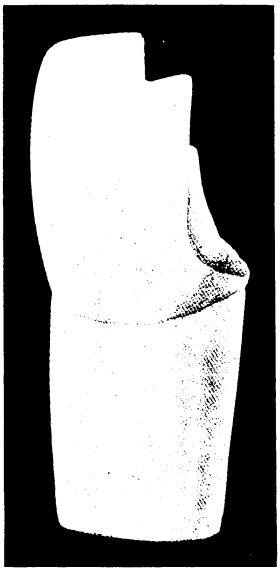


FIG. 28 C.

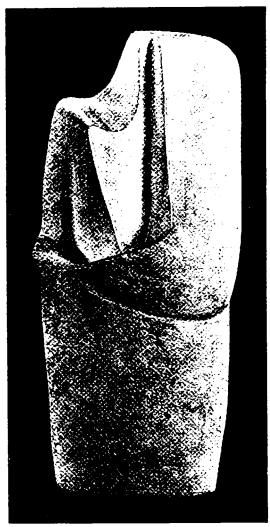


FIG. 29.

removed from the lingual surface, flat faced fissure and diamond burs in the right angle should be used to cut the enamel so that it will have proper marginal form and to remove enough of the dentine to give the step proper depth (Fig. 26). With a fissure bur in the straight handpiece the labial and pulpal walls should be so prepared that they will unite in the form of an obtuse angle. A shallow groove should run along the gingival wall. Another groove should be made at the union of the axial and pulpal walls of the step from the gingival wall to the incisal edge (Fig. 26 A).

Or a step may be prepared involving the middle and gingival thirds (Fig. 27). It should extend laterally far enough to give sufficient retentive resistance. The gingival and incisal walls which should unite with the

axial wall in curves should converge slightly toward the axial wall of the step. The pulpal wall of the step should be flat and should be so prepared that it will not interfere with the withdrawal of the matrix. The step should be as deep as the pulp will permit.

**Step in Labial and Lingual Surfaces.**

In all cases in which the enamel plates are thin in the incisal third, or in which there has been an extensive loss of the incisal angle, the step should involve both labial and lingual plates of the incisal edge (Fig. 28, A and B). This insures a stronger

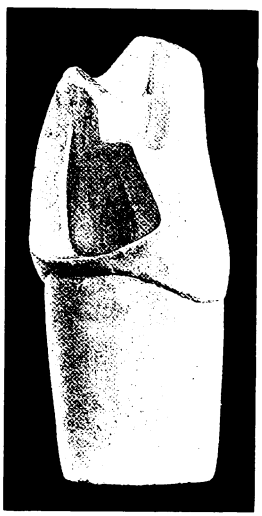


FIG. 30.

FIG. 31.

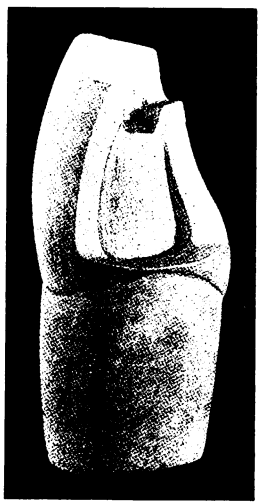


FIG. 32.

mass of porcelain and greater protection to the enamel. It also prevents the cement from changing the color of the tooth by reflecting through the thin plate of enamel.

One of the weakest points of a porcelain inlay is the incisal margin. if the enamel is beveled so that it is protected by porcelain, the thin margin of porcelain which will be formed may be subjected to enough stress to cause it to fracture. If the enamel is not beveled so that it is protected, the enamel itself may fracture. In all cases in which it can be done, the author tries to form the axial margin of the step near the center of the tooth, thereby leaving the enamel rods running almost parallel with the axis of the crown.

A step involving the labial plate should be so prepared that enough

tooth structure is involved to give a mass of porcelain sufficiently strong to withstand the force of mastication, and to resist both vertical and lingual stress. The step should be cut across the incisal edge, extending from one and one-half to three millimeters; it should be from one and one-half to two millimeters deep on the labial surface (Fig. 28 C).

Fig. 29 shows a form of cavity preparation similar to Fig. 26, except that the step involves both labial and lingual plates. The labial plate should form a reverse curve with the axial margin of the cavity. Its margin should be so prepared that it will form a right angle with the inciso-gingival curve of the surface. The gingival and middle thirds of the step should be prepared similar to the preparation of the step for Fig. 26. The lingual plate of the axial wall of the step should be cut further laterally than the labial, or a shallow groove should be made between the two plates with a fissure bar. This breaks the straight surface formed in a labio-lingual direction, and thus assists in preventing the cement from washing from the joint for the entire width.

Figs. 30, 31 and 32 show methods of step preparation, which, in the author's opinion, give the best results in most cases in which there has been extensive loss of tooth structure. The labial and lingual margins of the step should form right angles with the gingivo-incisal curves of these surfaces. They should form reverse curves with the axial margins of the cavity. In those teeth with thick incisal edges, a shallow cavity may be cut between the labial and lingual plates when these plates are approximately the same length (Fig. 30). In teeth with their incisal edges, the lingual plate should be cut almost half the thickness of the incisal end, and should extend farther gingivally than the labial plate (Figs. 31 and 32). It should be so formed that its gingival wall will be at right angles to the concavity of the lingual surface. The axial-lingual plate of enamel of the step should be cut further laterally than the labial, or a shallow groove should be cut between the labial and lingual plates of the step.

The preparation of the cavities for Figs. 25, 30, 31 and 32 is as follows: The gingival wall should be concave labio-lingually, and it should run at right angles to the pulpal wall, and its margin should unite with the margins of the labial and lingual surfaces in such manner that it will be concave mesio-distally. Both the labial and lingual walls should be parallel. They should slightly converge toward the center of the tooth as they approach the incisal edge, and their margins should run at right angles with the curve of the surface. A triangular cavity should be cut between these walls, gradually diminishing in depth toward the incisal edge (Fig. 30). The labial and lingual walls of the cavity should unite with the pulpal walls in such a manner as to form slightly obtuse angles.

Lower incisors receive stress in a vertical and labial direction. In the preparation of step cavities in these teeth, where the step involves only the labial plate, it should be cut on the labial surface in the incisal third. This preparation is the reverse of that shown in Fig. 25. In case both labial and lingual plates are involved the preparation that is shown in Fig. 30 with such modifications as are necessary to resist the labial stress is indicated.

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## A Plea for Oxy-Chloride of Zinc.

By Dr. C. Edmund Kells, New Orleans, La.

The editorial in the June issue has just been read, and I am amazed at the following sentence which occurs therein: "as well, perhaps, as the oxy-chloride of zinc, still used by some in root canals."

As a persistent user for thirty years of the oxy-chloride of zinc, I can not allow such a statement to pass unchallenged.

As a root filling, what material, I would ask, equals the oxy-chloride? This material sets without *any shrinkage,* is highly antiseptic, and a root canal which has been thus filled for twenty years may be extracted and split open and found sweet and clean.

Has the reader had any occasion to remove an oxy-phosphate filling of any size which has been *in situ* for a year or more? And if so, did he not find that it "smelled to heaven," as some one has expressed it? And, furthermore, did he not observe the condition under this *porous filling* worse than when it was inserted?

The oxy-chloride makes a dense, hard filling—as hard as adamant and *absolutely impervious,* and under the same conditions as just related, the conditions of the tooth would be found *improved.* These statements are beyond contradiction.

Now, at the end of thirty years' persistent use what do I find? If experience backed up by careful observation and full records count for anything, I find the following:

First.—That for partly erupted teeth in which faulty enamel formation is found and cavities exist at this early stage, nothing equals the oxy-chloride of zinc as a filling material. While it will not prove a durable filling, and must be carefully watched and renewed when necessary, the chloride of zinc has a chemical action upon the tooth substance *and for its good.*

Second.—In molars and bicuspids, which erupt with more or less large areas of *soft brown spots* in the enamel in which caries appears, all the discolored tissue need not be cut away, but only the cavity proper, and then filled with oxy-chloride of zinc, and the decay will be absolutely stopped for years.

Third.—Minute approximal cavities which occur in the incisors almost immediately after their eruption, and, in fact, often before they are completely erupted, may be preserved as *minute cavities* for years and years—twelve or fifteen—by the careful nursing with oxy-chloride of zinc fillings. Can such a result be obtained in any other way?

Fourth.—In very deep cavities it is not necessary to remove all the decay from the bottom. In these cases it is only advisable to remove what decay is absolutely necessary—*the margins of the cavity being made perfect,* a thick cream of oxide of zinc and creosote (Morson's) is floated over the remaining decay—and dried with spunk or paper and the cavity then filled with oxy-chloride of zinc. A year later that filling may be removed and a perfectly satisfactory condition *found beneath.*

The mummified decay may then be removed, two-thirds of the cavity be then filled with the oxy-chloride (with or without the creosote-cream, as may be advisable), and a thin veneer of gold or amalgam, as is deemed best, completes the operation.

Here is a real tooth saver. There may be some material of which I know nothing that will accomplish the above mentioned results, but it certainly is not the oxy-phosphate of zinc. The oxy-chloride forms a dense, hard, impervious and unshrinkable filling, and one which is conspicuously beneficial to the tooth substance *in contact with it.*

Hard as it is, the oxy-chloride is more or less soluble by the fluids of the mouth, and can be rarely looked upon as anything but a temporary treatment when exposed to the action of the saliva, though many exceptions to this are found, and I have very many fillings which are still perfect at the end of ten to fifteen years' use.


# The Rotation of Molars.

## (a) Methods of Rotating Malposed Molars. (b) Prevention of Rotation when Used as Anchorage.

By J. Lowe Young, D.D.S., New York.

*Read before the American Society of Orthodontists.*

Molars in torsal occlusion are not very common where teeth have not been extracted, and we more often find upper first molars in torsion than any of the others.

In the vast majority of cases the molar immediately distal to an extracted tooth, whether it be an upper or lower, drifts mesially and lingually and rotates at the same time (Fig. 1).

In Fig. 2 is shown the occlusal view of a case where the right lower first molar has been lost and the second molar has drifted forward to take its place without rotating. This may be due to the almost perfect occlusion (Fig. 3).

Where the lost organ is to be replaced by either fixed or removable bridge work, the prosthodontist, if he understands occlusion, will appreciate having this tooth properly aligned.

Previous to the thorough understanding of the importance of occlusion, the rotation of malposed molars was never attempted; and why should it be, for they did not show, and, as the esthetic effect was all that the orthodontist looked for, their attempts were usually confined to the upper front teeth.

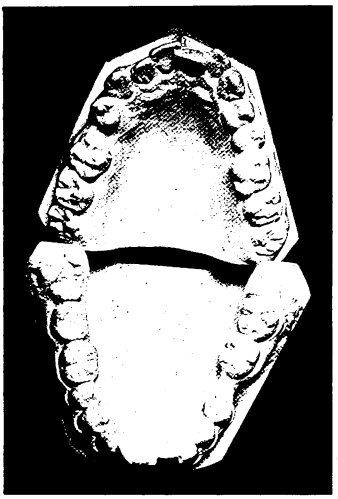

FIG. 1.

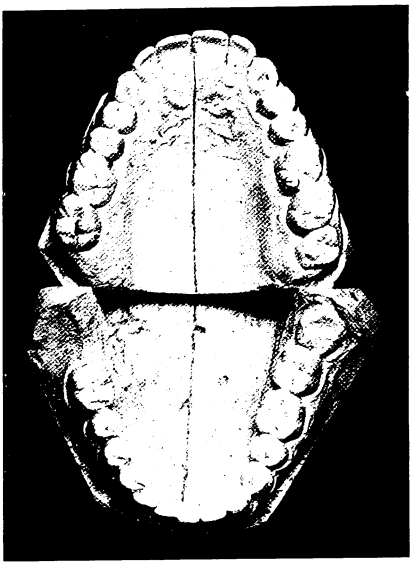

FIG. 2.

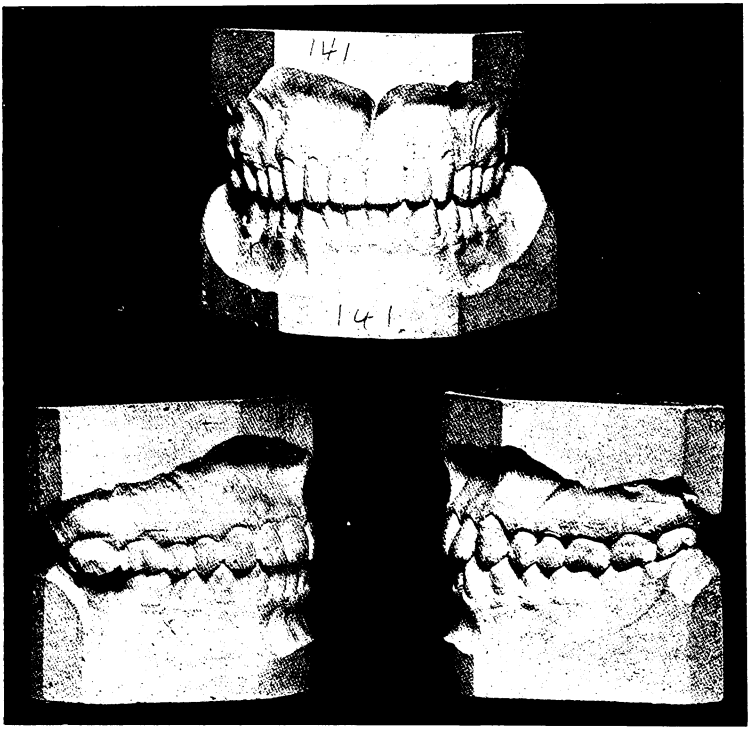


FIG. 3.

The molars most often found in torsal occlusion are the upper first, and they are usually found with the mesio-buccal cusp lingual to normal, and the disto-buccal cusp buccal in relation to the mesial cusp (Fig. 4). If we have the reverse of this position it would be a very simple matter to rotate them with the expansion arch alone.

Careful measurements show that an upper first molar in full torsal occlusion can usually occupy seven one-hundredths of an inch more space in the arch line than if normally placed. (By complete torsion is meant that the mesio-buccal corner of this tooth is in contact with the disto-approximal contact point of the second bicuspid, and the disto-lingual

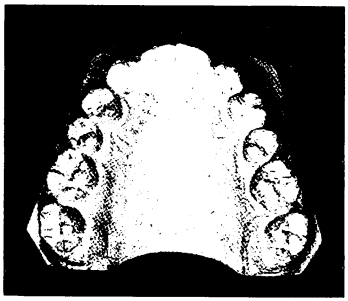

FIG. 4.

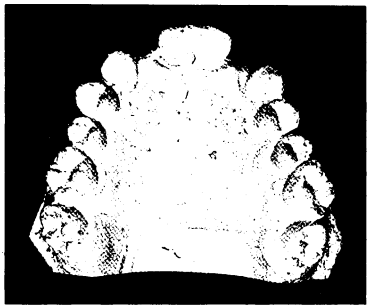

FIG. 5.

corner is in contact with the mesio-approximal contact point of the second molar.) This holds good whether the molar measures thirty-seven or forty-eight one-hundredths of an inch in its mesio-distal diameter. It is not often, however, that we find these teeth in complete torsion.

When we realize that complete torsion of this tooth can be the cause of all the teeth anterior to it being misplaced one-quarter the mesio-distal diameter of a bicuspid, it must be obvious how essential it is to properly rotate it.

**Previous Efforts at Rotation of Molars.**

The first record that I can find relative to the rotation of molars is by the man who has written the most on the importance of the occlusion of the teeth as a basis for the correction of irregularities, namely, Dr. Edward H. Angle. In his sixth edition of *"Malocclusion of the Teeth"* he has explained his accomplishment of this movement by the use of the expansion arch alone. I have employed this method, sometimes with success, but more often with failure

(Fig. 5), and these failures have prompted me to say something on this subject, feeling that it might be of interest.

At our last annual meeting Dr. Wm. O. Talbott, in a clinic, showed a device for rotating malposed molars, which at first seemed to meet all requirements, but personally I have not been very successful with it.

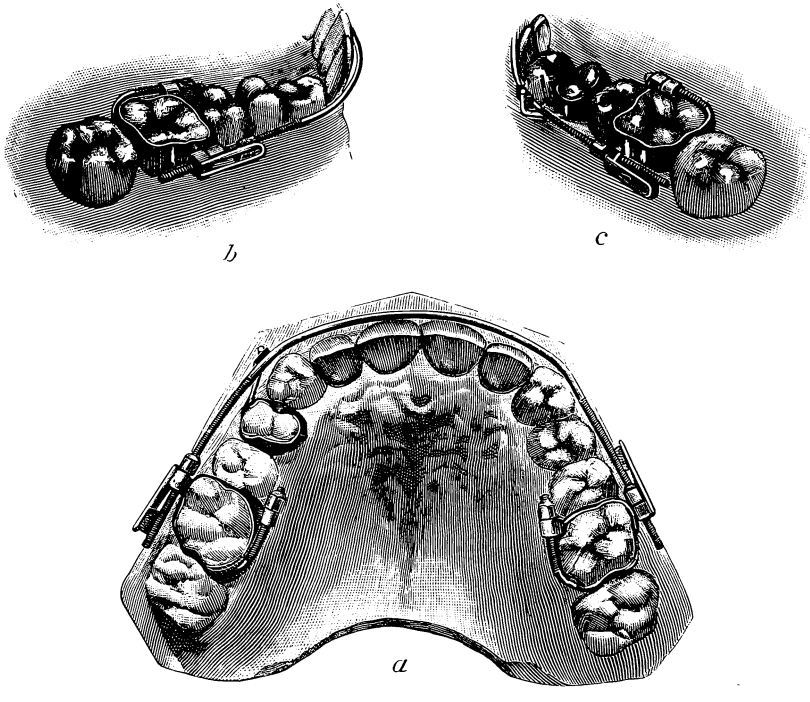


FIG. 6.

Dr. Talbot has kindly supplied me with a description of his appliance, in his own language, which I am pleased to quote as follows:

**Dr. Talbot's Appliance.**

"For rotating molars the appliance consists of a wire loop attached to a piece of short tubing on the buccal side of a clamp molar band (Angle's Band No. 2), used in conjunction with a threaded arch (Angle's Expansion Arch "E"), with separating rubber intervening between the loop and the arch (Fig. 6). The wire loop is made of gold spring clasp wire about 21 gauge, and should be three-eighths to one-half inch in length, the free ends of which are soldered to a short piece of tubing. These loops may be so attached to the tubing as to extend mesially

or distally to the tooth to be rotated, as the case may require the mesio-buccal cusp or the disto-buccal cusp to be moved buccally. If the loop extends mesially (Fig. 6 B), it should be attached to the tube in such way as to allow the nut on the arch to pass easily between the loop and the molar band, and rest against the mesial end of the tube so as to support the arch, as shown in Fig. 6 B.

"If the loop extends distally to the tubing, the free ends of same should extend just mesially to the tube so as to lock the nut on arch and prevent its being rotated by the friction of the cheek (Fig. 6 C).

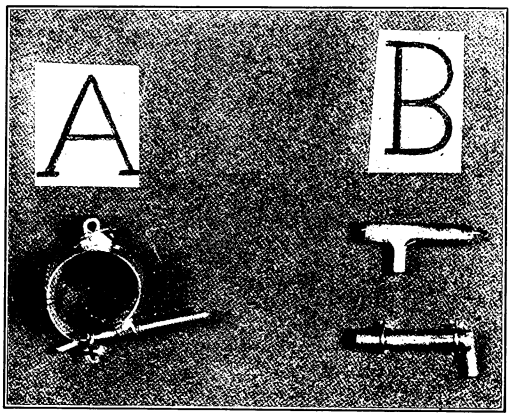


FIG. 7.

"The advantages of the wire loop over a flat spring are that it will hold the rubber better, it makes a better spring, and it is less irritating to the cheek.

"The piece of tubing should be one-eight of an inch long, the thickness used for jackscrews, and sufficiently large in diameter to allow the arch to move freely when placed in it.

"This form of attachment is simple anchorage, and should not be used in cases requiring stationary anchorage on the molars, as when great pressure is put on the expansion arch in moving the anterior teeth. However, it is indicated in such cases, after the teeth have been aligned in the arch, if the molars should need rotation.

"For rotating bicuspids, a lever is made of round gold clasp wire, about gauge 21, shaped as shown in Fig. 6, A and C. One end is attached with hard solder to a band made to fit the tooth to be rotated.

The band should be cemented to the tooth, and the lever allowed to extend mesially or distally, according to the direction of the rotation required, and rest on the buccal side of the expansion arch. Wedge rubber is used between the lever and the arch to produce the rotation. This gives

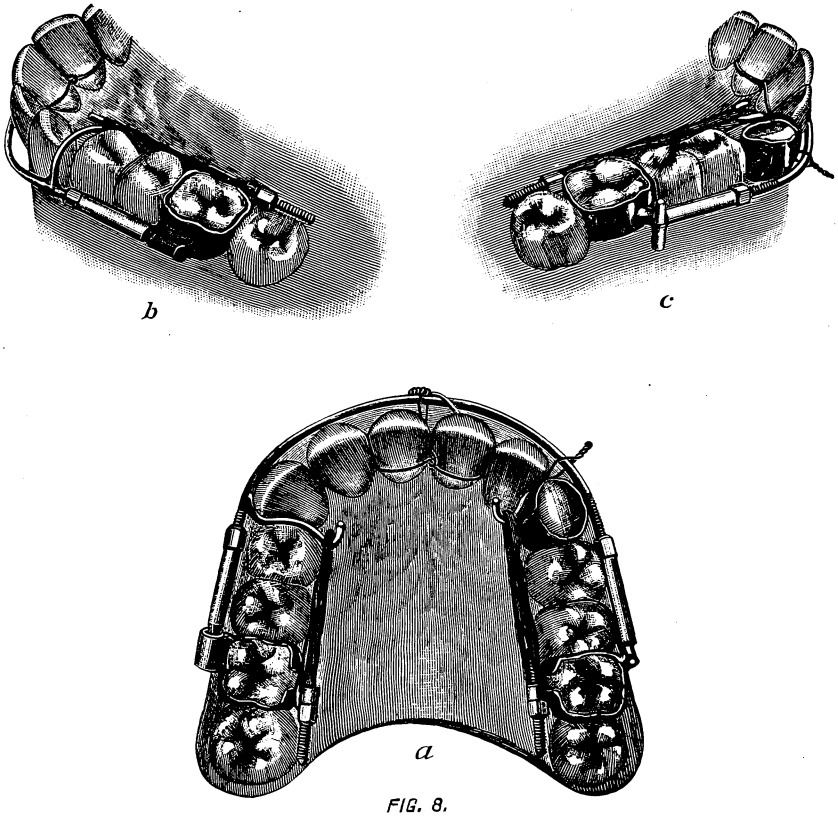


FIG. 8.

a lever three times as long as when the wire ligature and wedge rubber are used, in which case the length of the lever is only one-half the diameter of the tooth. As rotation takes place the lever and the loop may be readjusted by bending with a pair of pliers."

The application of the plain band with spur as used on the incisors, with the rubber wedge between the arch and the opposite corner from the spur, makes the rotation of these teeth absolutely certain and the force applied reciprocal.

**Dr. Young's Appliance.**

If this same principle can be applied to the molars the result will also be satisfactory. This can be accomplished by fitting a No. 2 band to the molar with the screw directed distally. On that part of the band over the mesio-buccal corner solder a short tube parallel to the long axis of the tooth (Fig. 7 A). On the pipe of the D band solder a piece of wire at right angles to fit into this short tube (Fig. 7 B). This gives a hinge attachment between the band on the tooth and the pipe in which the arch rests.

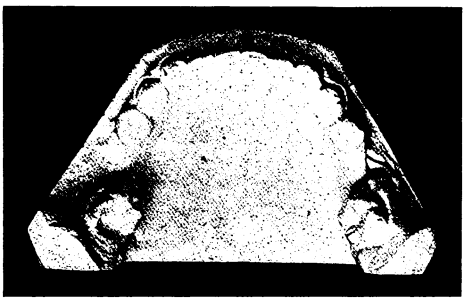

FIG. 9.

FIG. 10

Solder to the arch a rigid hook so as to pass between the cusps of the cuspid and the first bicuspid, and extend well up toward the palate with the hook pointing mesially (Fig. 8, A and B). From this hook stretch a rubber band over the screw of the clamp band on the molar. At first thought this may seem impracticable, but after looking over the models of several cases, I find that it is very rare that such a hook can not be placed.

In such cases the cuspid on the same side as the molar to be rotated may be banded and have a hook soldered to it, for attachment of the anterior end of the rubber (Fig. 8 C). This necessitates thorough ligation of the banded tooth to the arch in such a way that the cuspid will not be rotated nor displaced in the rotation of the molar.

In Fig. 8 B every unit of force exerted by the rubber band to draw the disto-lingual corner mesially is directed by means of hook and arch to drive the mesio-buccal corner distally, which gives the most reciprocal application of force possible. In Fig. 8 C the force is less reciprocal, owing to the intervening cuspid, but still efficient. There is nothing to interfere with arch adjustment, and no necessity of removing the arch for future bending. If the attachment to the pipe that carries the arch is

inclined to slip out of this short tube, it can be prevented by placing a wire ligature around them (Fig. 8 C). In Fig. 8 C is also shown a ball and socket arrangement for attaching the pipe to the band, which may be an improvement in some cases. Fig. 8 C, however, shows the usual method of attachment to the D band.

Fig. 9 shows the lower of a man of nineteen with the first molars lost and the second molars badly rotated. Fig. 10 is the same case, which

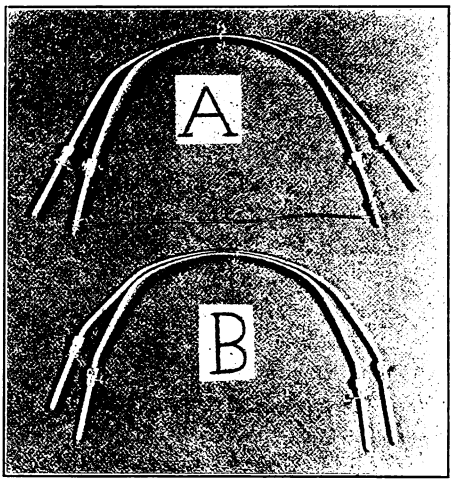


FIG. 11.

has been corrected by the use of this appliance, after first tipping the molars back with the usual application of the arch and the D bands.

I once asked a friend of mine about rotating malposed molars, and he said, "I can rotate them the way I do not want to." This, I think, has been the experience of many of us.

The D bands are usually placed on the first molars with the pipes parallel to the buccal cusps. If some precaution has not been taken, where much expansion is required, the rotation of these molars is sure to follow, and the distal portion of the tooth is always carried further than the mesial (Fig. 5). This is owing to the fact that as the arch returns to its original position carrying these teeth with it, the extreme ends of the arch widen very much more than the parts where the nuts rest (Fig. 11 A). Consequently, if the pipes remain parallel to the buccal cusps, the distal portion must be carried buccally very much more than is required. All

that is necessary to prevent this is to put a pronounced bend in the arch just in front of the nuts, so that, as the arch returns to its original position, the distal end of the pipe does not move any more rapidly than the mesial end (Fig. 11 B).

When plates are used for retention, the rotation of these molars is not a serious matter, as they will usually return to their normal position, but when a fixed lingual retainer, as shown by Dr. Lourie at our last meeting, is used, it is of great importance that they should not become rotated. This I have learned from sad experience.

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## Discussion of Dr. Young's Paper.

**Dr. Lourie.** To my mind Dr. Young's paper is on a very timely topic, and I believe he has brought to our attention facts and suggestions well worthy of emphasis and further discussion. The appliance speaks for itself, and it appeals to me as being valuable for the reason that the forces applied to the molar are so completely under control. Furthermore, it leaves the expansion arch free to be used directly on the other teeth. In other words, when the expansion arch is used for the purpose of rotating molars in the usual manner, its usefulness in moving other teeth is much impaired. If the molar needs to be rotated, and the expansion arch is used, the movement of other teeth must be delayed until the molar has been partially rotated, at any rate. I believe it is a good appliance and a valuable one, but I do think the description of it and the time required in describing it detracted from other points in the paper more valuable than the appliance.

I must disagree with Dr. Young when he says that molars in torsion occlusion are not very common where teeth have not been extracted. I believe it is common to find them in patients of ten to twelve years of age where there has been no extraction. For some reason the upper molars especially have been rotated in the manner Dr. Young explained. I think it interferes many times with the proper diagnosis: the buccal cusps are in lingual relation, while the lingual cusp may be normal mesio-distally in its relation to the lower molar.

I have noticed cases on the screen during this meeting in which the first molars were rotated considerably. In those cases it probably made no difference at the time, because the second molars had not erupted; but when the second molars come in we begin to have further trouble; so that those things must receive careful attention. I believe we should pay more attention to the rotation of the first permanent molars.

Dr. Young says if we had the reverse position of the molars in using the expansion arch for rotating (if we were rotating in the opposite direction) it would be a much simpler matter. I would like to ask him why? It seems to me it simply requires a different bending of the arch to use it for that purpose. He says if some precaution has not been taken where much expansion is required, the rotation of these molars is sure to follow, and explains how it may be prevented. I would like to impress on everybody the necessity of preventing these teeth from becoming rotated in the wrong direction. Dr. Young suggests if we put a retainer on that does not hold these molars rigidly, they may return to their original position. That is not always the case. It will prevent many complications if the molars are carefully watched and prevented from rotating during their treatment.

**Lingual Arch Retainer.**

One more point I want to explain since he has referred to the lingual retainer and used my name in connection with it. I think the lingual arch has been used improperly. No one should think of putting a fixed, rigid retainer on teeth not in their normal positions, nor where he expects them to adjust themselves as a result of occlusal contact. Consequently the molar should not have a rigid arch put on it in the case he cites. If the molar has been rotated, and you wish to allow it to assume its normal position, make a hinged attachment to the molar band instead of a rigid attachment; or transfer the attachment to a bicuspid band. It is the better plan to prevent the molar from rotating at the beginning.

In conclusion I would like to emphasize two points: The fact that molars are frequently rotated even where no extraction has taken place, and the necessity of being more careful in preventing rotation during treatment. I have been surprised at the number of cases reported in the past year or two where fine results were attained in the anterior part of the mouth and yet the molars were much in torsion, having been left so without any explanation.

**Dr. Hawley.**

I fully agree with Dr. Lourie that many molars are in torsal occlusion where no teeth have been extracted, and I have also noticed many cases where these were left in torsal occlusion. Dr. Young says that men in years gone by, those who have done orthodontia, have left those molars rotated. That is true, but it is now possible to get perfect occlusion. The method shown in this paper is one round in the ladder of advancement.

To anyone of a mechanical turn of mind it seems to me this method of Dr. Young's must appeal. The force is direct and positive; just where we want it. When we get our appliances so perfected that we can apply

force where we want it exactly, the movement of teeth is quite easy. In regard to the question of the space taken up by the molars, I think Dr. Young is probably right. I have not had an opportunity of testing the matter.

**Dr. Lourie.** One other point I meant to bring out. I have frequently heard it said that there are cases in which the upper teeth are larger than the lower: i. e., the upper arch out of proportion to the lower, and in several of those cases I am quite certain the apparent difference is caused by this very thing Dr. Young has explained. The rotation of the upper molar has taken up just that much more room in the upper arch, and it has been difficult to get the upper cuspids and bicuspids back to the normal position with reference to the lower.

**Dr. Abell.** I have seen that in three different cases. I have not been careful enough in the rotation of molars. I think I can go back home now and get such cases in better shape than I could if I had not attended this meeting. This point has been worth the trip to me, and I have thoroughly enjoyed this paper.

Another point occurs to me. I think in the appliance as shown on the screen you are not getting all the power you might get. If you would remove the German silver threaded bolt and replace with threaded clasp metal, extending it further to the front, say as far as the cuspid, you might do away with the hooks on the arch, as a ligature of wire from the end of this arm to the arch would rotate the molar, as the end of the arm was brought up near the lingual surfaces of the bicuspid and cuspid.

**Dr. Stanley.** I have discussed the rotating device with Dr. Young privately, and I contend that it is not a reciprocal force which he applies. There are two simple forces operating in the appliances shown—one, the elastic force on the lingual side; the other, the nut on the expansion arch as it is turned back on the arch. I do not think the appliance should be termed reciprocal in its action, because it would be misleading.

**Dr. Young.** I am sure you have been very complimentary in your remarks—all of you, and I appreciate it. As to Dr. Lourie's remarks: When I said molars are not often found in rotated positions, I meant we do not find them in seventy-five or ninety-five per cent. of the cases in torsal occlusion, but I have noticed in the last three meetings of this society many molars that were in torsal position and were left that way. I said, Why can not they

be rotated? and I tried and tried to rotate them. I have not had a great many cases, but have had quite a number of the upper first molars in torsal occlusion. I do say, as I said in my paper, that we almost invariably find those molars rotated after a tooth has been extracted in front of them. I agree with Dr. Lourie's point about these molars being in torsal position interfering with diagnosis. Dr. Lourie also says, Why can not we rotate the molars as easily one way as the other? I think the second part of my paper answers that. Putting the arches in without the little bend made us do what we did not want to do: the kink does the business, I believe.

Another point Dr. Lourie brought out. I did have sense enough when I retained that case with the lingual wire to make some provision for those molars to go back, but they did not go, so I have had to pull them back, and I agree with him that the better way is not to rotate them.

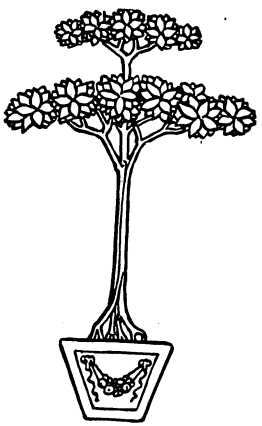
In answer to Dr. Stanley: I have not shown any attachment (Fig. 8 B) at all to the teeth in the arch. Say that this rubber band exerts a force of eight ounces, as Dr. Reoch gave in his paper this morning. It must pull as hard on the hook on the arch as it does where attached to the band on the molar. Now, if the hook is so placed that nothing interferes with it, that force is transferred through the hook and the arch right back, and I contend that every unit of force applied by the rubber band to pull the disto-lingual corner of the tooth mesially, is directed against the other corner to force it distally—which is absolute reciprocal force. On the other side (Fig. 8 C) there is a band on the cuspid, with hook on same. The rubber band is placed over the hook and attached to the molar as in the other case. I do not claim that to be a reciprocal force.

**Dr. Stanley.** I understood that the expansion arch was to be used and rotation of the molars accomplished simultaneously with the other movements of the teeth. If that is the case you change the reciprocal force which you have just described into two simple forces. I understood that the advantage to be gained by this form of appliance was that it facilitated the rotation of the molars while the other teeth were being moved, and I do not gainsay that point. I merely wish to make the point that if the appliance is used with the expectation that it will act as a reciprocal force, when all the other teeth are tied to the arch, the result will not be what is wanted. The elastics on the lingual side will be the force brought into play, while the attachment of the arch on the buccal side will act as a pivot. To accomplish the rotation of the molar on its long axis it would be necessary

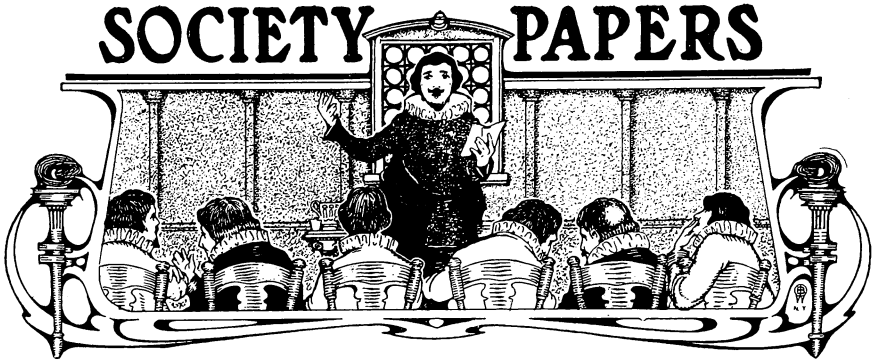
to screw the nut back on the expansion arch; therefore, unless the appliance is used solely for the rotation of the molars it can not be termed reciprocal.

**Dr. Young.** We have christened the baby "absolute reciprocal force" without showing any attachment to other teeth. I still think you can carry on the other tooth movements while using this appliance, but then it might not be absolute reciprocal force.

I wish to thank you for the discussion you have accorded my paper.



# SOCIETY PAPERS



## A Comparison of Gold Inlay Methods.

Dr. John Egbert Nyman, Chicago, Ill.

*Read before the Second District Dental Society, Brooklyn, November*, 1906.

The establishment of any new process has always been followed by a multiplicity of methods to attain practically the same result.

This has occurred so often in the history of our profession that it is to be expected that the future in this respect will be but a repetition of the past. We have witnessed it in everything from amalgams to root canal fillings. The establishment of cohesive gold fillings was followed by the development of half a dozen preparations of gold and twice as many methods of filling cavities with them. The establishment of porcelain inlays was followed by a dozen preparations of porcelain and equally as many processes. So we might go on with example after example if it were necessary.

What has been true of other processes has come to pass in regard to gold inlays. There are now about half a dozen methods in practice, and widely advocated, ranging from the simplest—that of merely flushing a matrix full of solder, to that of the comparatively complicated reinforced sectional or hollow inlay.

Many methods to attain the same desired result. How has this come to be? Through individual ingenuity struggling with the difficulties of individual cases, and, to that which is innate in nearly all of us, the desire to be original.

Many considerations influence the formulation of a method: First, accuracy and permanency of result; second, comfort of patient and operator; third, ease of manipulation; fourth, economy of time.

It is an axiom that one is not justified in using a complicated method, requiring considerable time, if there be a simpler, quicker method which obtains an equally good result.

If one is guided, first of all, and most of all, by the first two considerations, then any improvements that he can make in economy of time and ease of manipulation are most laudable, but he should be severely criticized for seeking ease and rapidity of construction at the sacrifice of accuracy and permanency and the comfort of the patient. And I am sorry to say that some few methods I have observed have no other claim to general adoption save that they are an easy and rapid means to obtain a result which is simply pseudo-successful and little less than an imposition upon the patient.

But some one may say, of all the many methods some *one* must be the best and should be adopted as the universal and accepted method. This would be an incontrovertable argument if all teeth were similar in shape and position, and if all cavities were identical in character and situation.

Do you use the same preparation of gold and the same manipulation? in other words, the same method—in every gold filling you insert? Of course not—no more should you expect to employ one method in all cases calling for a gold inlay; and yet continually we hear the question asked, "What method do you use for gold inlays?"

There is no "only way" in the insertion of gold inlays any more than there is in other operations we are called upon to perform.

We differ largely as to gold inlay methods because we are not entirely agreed as to the exact field for gold inlays in contradistinction to that of gold fillings; indeed a line of demarcation can hardly be drawn that will satisfy the individual judgment of all operators. Some are so imbued with the efficacy of gold inlays that they concede but a very limited field to gold fillings—others, however, still look askance at "that thin line of cement," and will not employ inlays save where there is such extensive loss of tooth structure that it is impossible to obtain anchorage for a gold filling. Time alone will bring a rational compromise of these extreme views.

I know of no process that has been introduced that is more advantageous to both patient and operator than that of the gold inlay; it has mitigated the hours of toil and suffering for both; it has replaced the uncertain, unsightly extensive amalgam filling with something more sightly and certain; it has reduced the necessity of crowns, with their accompaniment of pulp and tooth destruction, and has provided for a simpler, more conservative, more considerate anchorage for small bridges than has hitherto been available.

Briefly I will describe the various methods of gold inlays and in similar manner the various classes of cavities in which they may be used, subsequently stating the limitations of each method and the specific class of cavity for which they are best suited; incidentally some variations of certain methods will be remarked.

Inlays may be broadly divided into solid and hollow (or sectional) inlays.

**Solid Inlays.**

Method A. A gold matrix, invested and filled with 22 K. solder, or a platinum matrix and pure gold melted into it. Of these the gold matrix and solder are preferably advised, as pure gold has such a strong tendency to "ball up" when melted that it is more apt to result in a warped matrix.

Method B. A gold or platinum matrix; loosely fill this with some of the fibrous golds to an approximate contour and occlusion, allowing the patient to bite into it, and then soak this full of solder. This method is advised in preference to A.

Method C. Gold or platinum matrix, additional approximal contour matrix of this gold or platinum, invested—filled with solder from occlusal surface opening.

This approximal contour matrix is obtained by filling the matrix with hard wax, allowing the patient to bite into it; then the wax is chilled; matrix removed, the wax is carved to proper approximal contour, and over this approximal surface is burnished 1-1000th platinum, afterward cut to margin of matrix, then replaced on the contoured wax surface; a hot instrument is run over the margin, which softens the wax to stickiness and fixes the contour matrix in place while it is invested; after this is done and the wax is removed, fibrous gold is loosely packed in and the inlay is filled with solder; of course, it may be filled with solder without first packing in the fibrous gold, but I prefer the first method, as there is less solder in the case, less warpage and a richer color results.

Method D. Gold or platinum matrix, occlusal piece of gold—invested —filled with solder from approximal surface opening.

This cusp piece may be obtained by similar procedure to that described for the approximal contour piece, or it may be swaged in counter-die obtained from model of carved cusp. This method does not commend itself to the writer as much as does Method C, for he regards the approximal contour and contact as of more importance than the occlusion, and owing to the fact that solder—en masse—almost always contains holes, minute or plainly evident, it is better that this porous surface should be on the occlusal than the approximal surface. These pits become veritable fermentation pots; they can do no harm upon the occlusal surface, but

upon the approximal they are a serious menace to the approximal surface of the adjacent tooth if it be intact, and it is simply saddening to note how often they are to be found at or near the contact point.

Method E. Metal model of cavity—undercut at proper points for retention, filled with cohesive gold—condensed by mallet, built to estimated contour and occlusion, then removed from model and cemented in cavity.

This is a method the writer attempted some seven years ago, but abandoned because of the fact that he was so seldom able to obtain an accurate impression or to obtain a model the margins of which would not either batter down or chip.

Recently, however, it came to my knowledge that Dr. M. L. Rhein, of New York City, was constructing inlays by this method and was obtaining splendid results in practical cases. This report led me to try the method again, and in certain cases I did obtain splendid results, as we now have methods and materials for impressions and models that are far superior to what we had years ago.

The limitation of this method is reached when by environmental difficulties we are unable to secure perfect impressions, a condition that is frequently found in actual practice and which permits us to obtain but an approximate model, the matrix from which, however, can be fitted to the cavity in the tooth accurately and speedily by methods well known to everyone.

A hollow inlay may be obtained by this method by drilling a large deep hole in the model, filling this with cement and allowing it to protrude from the cavity wall in a speroidal mass; after this has been set thoroughly the gold may be packed and condensed. When this inlay filling is completed, the amalgam may be removed by boiling in nitric acid, and the cement core dissolved by immersing for a time in ammonia.

One advantage of this method is that one may add to the contour at any point after trying it in the cavity by simply freshening the surface with a coarse sandpaper disk and condensing more gold upon it. This method should never be used for bridge anchorages, as pure gold is too ductile.

**Hollow or Sectional Inlays.**

Method A. Matrix with center cut out—invested, allowing investment to protrude into matrix in small speroidal mass; loosely pack with fibrous gold to approximate contour and occlusion, and flow solder into the mass. After removal from investment a countersunk cavity in the center of the inlay is found. The objection to this method is the one before mentioned, that of the oft occurring pitted-solder approximal surface.

Method B. Matrix with center cut out, model of modeling compound carved to accurate approximal contour and occlusion, swaged cusp piece identical to carved model, soldered together—reinforced through opening in matrix with lower grade solder. There are two methods of obtaining this cusp piece, one by taking a plaster impression of the carved modeling compound, obtaining a moldine model from this—placing a rubber ring about it—pouring a fusible metal counter-die—into this the gold cusp piece is swaged with a buck shot; this gives a cusp piece that is identical in size with the carved modeling compound cusp—if the restoration is very extensive, such as involving both approximal sides and the occlusal, or one approximal and a portion of buccal and lingual walls, then the seamless crown method must be used to obtain the cusp piece.

The construction of the cusp piece may be simplified by first filling the occlusal dovetail step with fibrous gold and soaking 22 K. solder into it, making a solid section of it.

The second method is by swaging directly over the carved cusp piece with the matrix upon the metal or cement model. The carved cusp must be made of cement or hard modeling compound cut away at all points and over all surfaces the thickness of the metal to be used.

The criticism of this second method is that one must have first an absolutely perfect impression and model, a thing which, as has already been stated, is frequently exceedingly difficult—yes, practically impossible—to obtain. Moreover, this swaging method does not allow of the swaging of a reinforcing cusp piece which often should be used.

The advantage of this method of gold inlays is that the occlusion and contour may be verified in the mouth just before completion, and if slightly incorrect may be automatically corrected by simply having the patient bite on it.

The results of this method are admitted to be ideal by all who have witnessed it, and in many cases better results are obtained than by any other method.

The only criticism that has been directed against it is that there are so many steps to it and that it takes so much time; this last criticism, in cases in which the method is specially indicated, is simply a preconceived notion which is not borne out by actual experience.

I have, however, scant patience with any such criticism, for however much more time it may consume than some other inlay method, it is a vast improvement in time, suffering and fatigue over any method of gold filling for the same case.

**Choice of Methods.**

Having a general classification of methods we come to a consideration of cavities and choice of methods.

**Simple Cavities.**

Class 1. Extensive occlusal surface cavities—if the occlusal surface be comparatively flat with low cusps and shallow sulci—then the simplest method of the solid inlays—viz.: Method A, matrix filled with solder, is quite as effective as any other. If, however, the cusps are high, the sulci deep and there is marked overbite, then Method B of Solid Inlays is advised—viz.: a matrix loosely packed with fibrous gold —having the patient bite upon it to obtain approximate occlusion before flowing solder into it. In the preparation of these cavities a definite angle between the floor and side walls should be obtained.

Class 2. Extensive buccal cavities in lower molars with marked overbite. In these, Method A of Hollow Inlays is advised—a matrix with center cut out—invested, allowing the investment to protrude in a spheroidal mass about half way to the ultimate surface of the inlay—fibrous gold loosely packed around and over the protruding investment to an approximate contour and then solder flowed into it. When the investment is removed an undercut cavity is found in the inlay which gives a mechanical attachment between the cement and the inlay in addition to the natural adhesion of gold and cement, and by the reason of a thicker layer of cement, thermal shock is eliminated—a point to be considered, as these cavities are in a section of the tooth that is particularly sensitive.

Class 3. Extensive lingual cavities in upper incisors—in these Class A of Solid Inlays is most effective; sometimes it is necessary to insert two or three very short posts to secure retention, care being observed, of course, not to endanger the pulp in drilling holes for them.

**Compound Cavities.**

Class 1. Cavities which do not extend to the axial angles in bicuspids and molars of but little contour and slight overbite. In these, Methods A or B (preferably the latter) of Solid Inlays may be used—as merely filling the matrix with solder flush with the overlap surfaces of the matrix results in approximate contour and occlusion.

Class 2. Cavities involving the occlusal surface which extend to or slightly beyond the axial angles in bicuspids and molars which have considerable contour and overbite—the preparation of which involves the cutting of occlusal dovetail and step.

In these, Methods B, C, D and E of Solid Inlays or Method B of Hollow Inlays may be used.

If Method B of Solid Inlays be used—matrix loosely packed with gold fiber afterward filled with solder, an operating matrix must be adjusted while the gold fiber is being packed; sometimes the extension of

the cavity rootwise or other circumstances renders this so difficult as to be very uncertain if not quite impossible, and the Method C or E of Solid Inlays is advised if pronounced approximal contour is called for; if but the usual approximal contour is to be obtained, but there is an abnormal occlusion, then Method D of Solid Inlays may be used; if, however, there is both pronounced approximal contour and abnormal occlusion to be obtained—a combination which often occurs—then Method B of Hollow Inlays is the one best adapted.

Class 3. Cavities in bicuspids involving the entire approximal wall, but not the sulci beyond the transverse ridge.

In these cases the cutting of the transverse ridge not only is a painful ordeal for the patient, but endangers the lingual wall, especially if the case be of a lower bicuspid, and Methods A and B of Hollow Inlays are advised, as they provide ample attachment if the side walls of the cavity be slightly grooved before the inlay is set, thereby obviating the necessity of the occlusal step and the severing of the transverse ridge.

Class 4. Cavities involving entire lingual surface of incisors together with one or two approximal cavities. In these, Method B of Solid Inlays is advised, modified as follows: An additional lingual piece is made and sweated onto the inlay to reinforce it before loosely packing fibrous gold into the approximal cavities.

Class 5. Cavities in bicuspids and molars (usually the latter) which involve an entire approximal wall with a portion of one or both side walls.

In these, Method B of Hollow Inlays is especially advised as in addition to the immense amount of contour to be restored there is usually an abnormal occlusion to be accommodated.

Class 6. Cavities in bicuspids and molars involving both approximal sides and extending across the occlusal surface.

In these, Methods C, D, E of Solid Inlays may be used, but more especially advised is Method B of Hollow Inlays modified by having both matrix and cusp piece reinforced by additional matrix and cusp of 30 gauge 22 K. gold swaged and sweated to original matrix and cusp piece with 22 K. solder.

The cusp piece in these cases must be formed by methods used for swaging seamless crowns.

This method is particularly suggested because there is very little solder in it, while in the other methods there is a great mass of solder, that always warps the matrix to a degree.

**Cavities for Bridge-anchorages.**

Sometimes in the insertion of one or two-tooth bridges in the upper incisors the adjacent teeth have Class 4, Compound Cavities, in them, in which case inlays of the modified Method B of Solid Inlays should be used.

In cases which contemplate the insertion of bridges between bicuspids and molars with inlays as abutments the entire approximal wall must be cut away and adequate occlusal dovetail step obtained, and the gingival and occlusal floors beveled toward the center of the tooth; both of these details are absolutely essential. In these is pre-eminently advised a modification of Method B of Hollow Inlays as follows:

After obtaining a matrix of pure gold with center cut out, swage a reinforcing matrix of 29 gauge 22 K. gold, which is to extend only to the margin of the first matrix, but not to overlap on the overlap of the original matrix—the center is also cut from the reinforcing matrix; the two matrices are then sweated together with 22 K. solder; two contour pieces of 29 gauge 22 K. are swaged, sweated together with same grade solder and then the reinforced matrix and reinforced contour cusp piece are soldered with 22 K. solder.

This gives an inlay abutment which will withstand any stress; and has the minimum of solder, which will not be disturbed in any subsequent soldering. Such an inlay may also be used to anchor any of the various attachments for partial plates.

Perhaps some have noticed that I have not coupled the names of practitioners with the descriptions of these methods, and have wondered at it, but the fact is that not any one of the methods is in all details entirely original with any one man. Many men have studied, experimented, written and demonstrated upon gold inlays, among whom there comes to my mind the names of Ames, Alexander, Batchellor, Hinman, Perry, Swasey, Tileston, Thompson, Trude and Wassall. The profession is debtor to the genius of each of these.

You may be convinced of this, that each of the many methods that have been devised and demonstrated are specially adapted to some class of cavity—the exigencies of which have justified the formulation of the method and that perchance the main criticism that may be directed against it and its advocate is that he in his enthusiasm has advised it for all cases.

Centuries ago a wise old philosopher said, "I have come to learn that there is no doctrine that is so absolutely false as to be utterly devoid of truth."

And the central thought of that utterance is true to-day. There are few methods so absolutely faulty as to be utterly devoid of value.

# Neurasthenia and Some of its Oral Manifestations.

By Arthur B. Crane, D.D.S., Washington, D.C.

*Read before the District of Columbia Dental Society, Washington, D. C.*

As the science of dentistry progresses, it becomes more and more evident that the oral cavity must cease to be considered as an isolated field of observation and treatment. The time has arrived when dentists must have an accurate and scientific knowledge of all those metabolic, neurotic and psychic phenomena which are known to and utilized by the medical practitioner in arriving at diagnoses and outlining methods of treatment.

We have learned in comparatively recent years that not only do certain general diseases manifest themselves by morbid changes in the mouth, but indeed that some of them are first recognized by their oral manifestations. To go still further, we have learned that in the mouth lies the source of a few diseases hitherto considered general. It is without apology, therefore, that I direct your attention to a subject which might seemingly be better suited for discussion before a society of neurologists.

Neurasthenia has been called the "American disease," and has made such rapid progress among Americans during the past century that some investigators have predicted that the twentieth century would produce a race of neurasthenics. However that may be, it is certain that neurasthenia is one of the most frequent and important nervous affections in this country to-day.

The importance of neurasthenia was first recognized by Beard, an American neurologist, who in 1879 gave it its present name from two Greek words meaning "nerve" and "weakness." It is not, strictly speaking, a disease, but, as the name implies, a condition, or weakness, of the nerves.

It has been defined by Dercum as "A persistent diminution of nervous energy, together with an increased reaction, mental and physical, to external impressions." In other words, it is a nervous bankruptcy in which the daily expenditure of nervous energy is increased and the daily income diminished. The nerve cells are feeble and uncertain in their action and incapable of properly performing their functions; hence the patient is exhausted by slight causes and reacts morbidly to slight irritations.

**Etiology.** No anatomical disorganization of the nerve tissue is at present known to exist as the cause of the condition. The active causes include all those influences which in any way act unfavorably upon the nervous system, such as shocks, injuries, defective vision, severe mental and physical work beyond the individual's power of endurance; worry, especially if associated with lack of rest; impure or extremely dry air, improper nutrition, excessive introspective thoughts or chronic diseases. Among the predisposing causes are neurotic heredity and low vitality.

Neurasthenia may make its appearance as local or general. A local manifestation is almost always the result of overwork or strain of the part. Distinctive terms have been applied by some writers to indicate the predominance of certain local symptoms, as "Gastric Neurasthenia," disturbances of the digestive functions; "Acoustic Neurasthenia," disorders of the sense of hearing; "Cardiac Neurasthenia," palpitation and irregular action of the heart; "Ophthalmic Neurasthenia," changes in the vision; "Dental Neurasthenia," obscure pains in the oral cavity.

Neurasthenia is divided clinically into cerebral, originating in the brain; and spinal, originating in the spinal cord. In most cases we meet with both the cerebral and spinal symptoms, and we will therefore consider the disorder as cerebro-spinal or general neurasthenia.

**Symptoms.** Among the earliest symptoms are derangements of the special senses, as disturbances in the muscular balance of the eye, abnormal and imaginary impressions of taste and smell or deterioration of the sense of hearing. Other common symptoms are tenderness and dryness of the skin and mucous surfaces; weakness of the muscles and muscular twitchings in one muscle or group of muscles; numbness of the limbs, irregular pulse and palpitation of the heart, sleeplessness, a morbid craving for certain foods and drinks, irritability of the sexual organs, chilliness or creepy sensations along the spine, vertigo, fleeting neuralgias and sick headaches, blanching of the hair, flushing of the face, frequent gaping, disturbances of the digestive functions, mental depressions or excitability, loss of emotional control, morbid fears, decrease in mental capacity and loss of memory.

Hypochondria frequently assumes an important role, and not only exaggerates existing symptoms but contributes others of its own.

The general course of neurasthenia is always chronic, and when it seems sudden it has been preceded by a train of overlooked phenomena. In milder cases there is very little external evidence of the derangement. The patient appears healthy and endeavors to hide his troubles, as his indefinite symptoms seldom meet with much sympathy. He is usually self-

conscious and will seek solitude rather than society. None of the symptoms are constant, but are varied by alternate improvement and relapse. As the affection becomes of long standing, the whole nervous system becomes involved, and the patient's vigor is so much impaired that his condition assumes a grave aspect. The tissues may become degenerate, and doubtless these abnormal conditions are either induced or hastened by nervous debility, but they can not be said to be more than mere coincidences. The nerve tissues themselves are not diseased (in a pathological sense), but are weak and liable to become so.

**Neurasthenia in Relation to Dentistry.**

Patients who visit the dentist in a weakened or nervous condition are liable to develop neurasthenic symptoms in the mouth if too prolonged or heroic treatment is attempted. The emotional and physical strain necessary for the patient to control his actions, the almost constant thought and worry about the teeth, added to, in many cases, by loss of sleep and improper nourishment because of aching teeth, are enough to undermine the nervous reserve of a patient relatively strong. It should always be remembered that neurasthenia is induced by a strain relatively great, that is, greater than the individual's ability to bear.

In dental practice neurasthenia is often the cause of mistaken diagnoses and useless treatment. Among the earlier symptoms in the mouth is a disturbance of the secretions. The gums sometimes become hypersensitive to touch in certain areas without any sign of anatomical degeneracy. More rarely is encountered an extreme sensitiveness to heat and cold or acids. Soreness of the throat and disorders of the muscles of mastication and deglutition, without inflammatory process, are also sometimes encountered.

**Cases from Practice Case 1.**

The following cases have come under my observation and indicate some of the vagaries of neurasthenia in dental practice: Married woman, aged 45, whose case I have partially reported in another paper, had right upper first molar treated for many months. Each time the tooth was sealed up a severe neuralgia affected the whole side of the face. Exploration after extraction showed that two roots had penetrated the floor of the antrum, leaving free openings. Douching the antrum failed to reveal the presence of pus, so the wound was allowed to close. Pain ceased and the patient left for a vacation in the country. When she returned to the city about three months later she came to me complaining of pain under the eye, dripping into the throat and other diagnostic signs of antral empyema. The patient insisted upon the extraction of the right upper second bicuspid tooth, which felt elongated,

and after consultation with her dentist I complied with her request, and found that it also extended into the antrum, which was thoroughly washed as before without disclosing the presence of pus. The wound was kept open for frequent examination for about two weeks, but as no pus was discovered and the pains ceased it was allowed to close. After an interval of about two years the patient returned, having marked symptoms of engorgement of the antrum. A radical operation was advised but declined by the patient until she could consult her physician, who is a prominent rhinologist. He called on me later and recommended deferring the operation, as he believed the symptoms to be entirely neurasthenic and was treating the case accordingly. The improvement of the patient under his care to the present time has justified his diagnosis.

**Case 2.** Married woman, aged 27, having recently experienced a laborious confinement which left her in enervated condition, presented asserting that she had extreme pain in her teeth upon taking hot or cold substances into the mouth. Investigation revealed a beautiful set of teeth in perfect condition. There were no cavities nor any sign of erosion, abrasion or enamel softening. The patient was frankly told the condition of her teeth, and was, I imagine, rather disgusted with my ability as a diagnostician. Afterward I had the opportunity on several occasions of watching her eat and she often had to leave the table because of the excruciating pain in her teeth. About a year later, upon my questioning her concerning the condition of her teeth, she informed me that they were "still sore," evidently having forgotten that the cause of her seeking my services was that her teeth were susceptible to thermal changes.

**Case 3.** Unmarried woman, age about 30, had been in the hands of unscrupulous dentists, who had left her mouth in a deplorable condition as the result of unsightly and unsanitary bridge operations, fillings over improperly treated teeth, etc. It was necessary for me to prepare a number of exquisitely sensitive cavities, divitalize some pulps (which I can not always do without pain) and arrange her appointments very close together. The effect of this strain, coupled with worry over the outcome of the treatments and because of financial difficulties, was that the patient developed a decided case of dental neurasthenia. At almost every sitting she would report discomfort in some different region of the mouth. Healthy teeth and normal gums became the seat of severe pain. Divitalized teeth reacted to cold and vital teeth were sore to percussion. She came to be suspicious

of me and discontented with my methods of treatment, and it was with the greatest difficulty that I diagnosed and treated the simplest affections. Whenever it was possible, I gave her long periods of rest from dental work, after which she returned with restored vitality and the obscure pains entirely quiescent.

**Case 4.** Married woman, age 28, developed neurasthenia after childbirth, followed by subsequent abdominal operation. Her eyes were first affected and later her teeth ached upon the slightest depressing emotion, but the discomfort would entirely pass away with the approach of pleasant experiences. There were only two small cavities in her teeth, neither of which was sensitive, but while filling them the patient experienced pain in other teeth of the opposite denture.

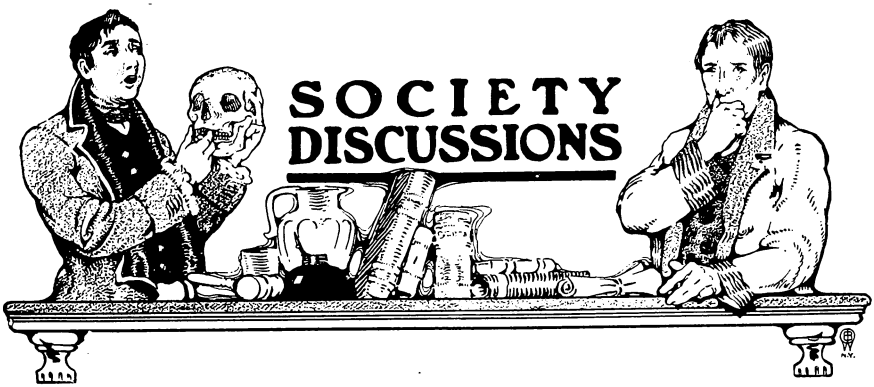
Additional cases have been reported to me by physicians, among which were two of male patients who suffered persistent pain at the base of the tongue. In one the moral effect of an actual cautery of one or two slightly enlarged circumvalate papillæ was sufficient to accomplish a recovery. In the other the pain was coincident with loss of work and financial difficulties and disappeared when the patient received an appointment in the government service. In another interesting case a man was affected with a dryness of the throat. He would sip water almost constantly without obtaining relief, and had difficulty in swallowing solid food. There was no apparent diminution in the salivary secretions, and for moral effect the tongue was slightly cauterized, which seemed to give the patient relief.

**Treatment.** The treatment of neurasthenia should properly be relegated to the neuropathic specialist and not attempted by the dentist. When neurasthenics come under our professional care, however, we may do much to aid the treatment by moral support. Frequent examinations and assurances of lack of objective tissue changes have a quieting and beneficial effect. Neurasthenia requires sympathetical and tactful management. When hypochondriosis is a prominent symptom an elevating mental influence may alone be sufficient to effect a cure. Strychnine and other tonics, outdoor life and change of occupation also produce improvement. Dr. S. Weir Mitchell and other neurologists have devised a system of absolute rest, associated with forced feeding and massage, which is wonderful in its results.

Members of the dental profession are particularly liable to neurasthenia. The dry and often impure air of the operating room, in connection with irregular and hastily eaten meals, and the expenditure of

nervous energy necessary to conduct an active practice, must all be offset with an adequate amount of outdoor exercise and social diversions in order that this danger may be avoided.

In conclusion let me acknowledge my indebtedness to the writings of Beard, Ranney, Strumpell, Dercum, Jelliffe, Whistler and others, from whom I have freely quoted. In selecting material for this paper I have been guided by a personal knowledge of the condition, gained through living for four years with a widely known neurasthenic.




## Second District Dental Society.

### November, 1906, Meeting.

A regular monthly meeting of the Second District Dental Society of the State of New York was held at the rooms of Kings County Medical Society, Brooklyn, on Monday evening, November 12. The following were admitted to membership: Drs. Frank A. Gough, Houston Harlan, C. T. Van Woert and David Kenneth Campbell. The president then introduced Dr. John Egbert Nyman, of Chicago, who read a paper entitled "A Comparison of Gold Inlay Methods," which will be found elsewhere in this issue.

### Discussion of Dr. Nyman's Paper.

**Dr. John A. Schmidt.** The essayist is to be commended for his classification of gold inlays, and the cases in which the various methods are to be employed. Certainly it will be of great value to the beginner and an aid to one already expert in this line of work.

While he has said that the exact field of the gold inlay, in contradistinction to that of gold fillings, has not been agreed upon, yet he does not mention the porcelain inlay. He has said that he knows of no process that has been introduced that is more beneficent to both patient and operator than that of the gold inlay. Again, he states that the gold inlay has displaced the uncertain, unsightly, extensive amalgam filling. For one of considerable experience in the use of gold, also of porcelain and

gold inlays, I wish to take exception to the statement "uncertain amalgam fillings"—although a digression. Dr. Van Woert speaks of amalgam as the dentist's good friend; he might also add "the patient's good friend." I believe that it saves more wrecks of teeth than any material we have. I have in my mouth three amalgam fillings involving the entire morsal surfaces and part of the approximal, placed there thirty years ago—sixth year molars and pulps alive.

A well inserted and carefully lined amalgam filling is *not* an uncertain filling. When finished with the same care that should be given to a gold filling, or inlay, it is not unsightly, as it can be kept clean, which is impossible of any unfinished filling, and, upon this condition depends the durability of the filling. Of course, I have reference to its use in posterior teeth.

I am not sure that I have a *certain* operation with a gold inlay unless I have it well anchored in an occlusal dovetailed slot; and if the occlusal surface is not involved, crushing force not necessary to be considered, then, from the standpoint of beauty, a porcelain inlay is to be preferred. I am not one of those mentioned by the doctor as looking askance on the thin line of cement, but prefer, except in the anterior teeth, in cavities of ordinary size, the gold filling that has served us so well for a long period of years, reserving for gold inlays those large cavities with frail walls, not only to avoid the drain on the nervous system of operator and patient, but knowing that the inlay will not spread as a large gold filling will, thereby fracturing the wall of the tooth. In such cases the use of a gold inlay, selected according to the conditions stated by the essayist, will give efficient service. This inlay must be imbedded in a good body of cement, and whenever it is possible, the use of the rubber dam, to insure cleanliness and freedom from moisture, enhances the value of the operation.

I believe that it is the consensus of opinion of our expert inlay workers that an inlay of any kind should be imbedded in a sufficient quantity of cement, deepening the cavity to accommodate the same, and not depending on a mere film. The essayist has described many valuable methods of constructing gold inlays. The sectional inlay as devised by Dr. Dills, both sections constructed of pure gold united with and reinforced by a high grade gold solder, having a good space within for anchorage of cement, makes an inlay that is accurate, can be beautifully contoured, and, if the construction is followed with due care in carving, requires only the finishing of the edges and a general polishing the day following the insertion.

Although the method requires an amalgam die and press, the results are such as repay for the extra time. Having an expert inlay worker in

my laboratory, this particular style is constructed in twenty to fifty minutes, depending on size. The gold inlay certainly saves many a tooth from being crowned; and its use as an anchorage for small bridges is far superior to the tedious and often times faulty bar anchorage.

I believe that in the anterior teeth the gold inlay should only be employed where great stress is brought to bear. In other cases, for cosmetic effect the porcelain is preferable. The opening of the bite in cases of extensive abrasion of the occlusal surfaces, swedging the matrix, using the same size pins as found in our plate teeth to assist an anchorage, and flushing the surface with gold solder, is a method that we know has given excellent service.

I am in hearty accord with the selection which the essayist has made out of the numerous methods. And I expect to profit by his effort of this evening. The inlays of gold and porcelain have now been in use sufficiently long for us to know that they are materials that we can depend upon, it being only a question of judgment on the part of the operator as to when and where they are to be employed.

**Dr. M. L. Rhein.**

From a careful perusal of the paper I am led to believe that it leaves the inference that the essayist is much more of a radicalist in the use of gold inlays than I have reason to think he really is. I am sure that after listening to Dr. Nyman's paper you all must have formed the opinion that Dr. Nyman practically does not insert any gold fillings, and I am sure that is a great mistake. The unfortunate part of all this inlay agitation has been that it leads a large number of the profession to use inlays, whether porcelain or gold, as an easy method to a result, and already I am led to understand by men who are very good observers, and who have traveled very extensively among different offices, the number of men who are entering the profession and abandoning all fillings of any kind is assuming a large proportion.

**Radicalism in Inlay Work Condemned.**

While this is not strictly in accordance with the title of Dr. Nyman's paper, I do not believe that the subject can be properly covered without considering this phase of the question, because to my mind it is a very serious phase, and I mean by that the effect it is having upon the ability of men to insert gold fillings that will save teeth—not for a year or two or five years, but, barring accidents, for twenty-five or fifty years, if the patient lives that length of time.

There is very little doubt that the inlay propaganda has done a grievous injury to operative dentistry, from this standpoint, and the question for us to consider is whether that extreme point of view should be

furthered or whether it should be held in check. There is a place for gold inlays, a very great place, in operative dentistry; but I am absolutely opposed to the extreme point of view. In the first place, in careful discussion of this question with every gold inlay operator whose opinion I value, I have yet to find one who is not willing to admit that a perfectly inserted gold filling is superior to the best and most perfect inlays that can be constructed. If this point is admitted, then, as a profession, we should carefully protest and guard against young men getting the impression that they can become good dentists without being able to insert perfect gold fillings.

Dr. Nyman has presented to us a wonderful array of different methods of making inlays, and, in the main, very little can be said in opposition to the views which he has presented. He has done me the honor of speaking of a form of inlay which I have been using for some time past, and I wish right here to decline the honor he has done me in giving me the credit for this inlay, because I thoroughly agree with him that no one man has originated all the steps of any method. I have been surprised that this particular plan has been so long ignored, because, if you decide to use an inlay, it has advantages which the essayist has not dwelt upon which render it, in a large number of cases, infinitely more reliable than any method where the inlay has to pass under the flame of the blow pipe. It has the advantage of being, in my estimation, the simplest method of making an inlay, if you are desirous of obtaining absolutely perfect results. The essayist covered that very completely when he said he admits that with an accurate impression no criticism can be made against an inlay constructed by this method, and I insert this proviso; if the gold is packed solidly enough to give it a specific gravity so that it will come up to at least 19; and there ought to be no difficulty in obtaining this specific gravity outside of the mouth.

I was a little surprised to hear the essayist refer to the use of gold inlays for the lingual surfaces of incisors, and I should feel in the case that he has mentioned that I should certainly prefer a porcelain to a gold inlay. There is always a strong possibility of an inlay, in such a position as that, interfering with the cosmetic appearance of the teeth; and if ever a porcelain inlay was indicated in preference to a gold inlay, I should think it would be in such cases.

The sectional hollow inlay that has been especially evolved by Dr. Nyman is one which, made in the careful and accurate way that he constructs it, undoubtedly is about the most perfect of its kind that has been presented to the profession, and in closing what I have to say I wish especially to emphasize what he has said, that an inlay should be so made that it will be accurate in order to save teeth.

**Dr. Weeks, Minneapolis.**

I will take this opportunity of expressing a few thoughts that have come to my mind. The most prominent is that caused by the manner in which Dr. Nyman handled the paper, the presentation and, in a measure, the comparison of methods, emphasizing the fact that no matter what the line of work is we have in hand, there is no one method that will fit all cases, there is no one material that is indicated in all cases, and no one method of handling that material, or of application; and this is quite important because men are prone to limit their practice to the choice of but few materials or few methods and to try to fit one suit of clothes on all men who come to the shop.

There is no question but that one of the greatest applications of the gold inlay is, as Dr. Nyman has indicated, for the anchorage of small bridges, and a number of very ingenious methods have been suggested. I think Dr. Nyman did not refer to one which Dr. Murray has exhibited on several occasions—I do not know that he is responsible for it—in incisors and cuspids, a sort of a U-shaped inlay following the deeper depression of the fossæ, a method whereby very strong anchorage may be obtained without jeopardizing the pulp.

**Dr. W. D. Tracy, New York.**

I have been interested with the others in listening to Dr. Nyman—he usually does interest us when he comes East. I was rather amazed at his extensive classification and I was interested also in his summing up in the matter, to note that he proved very partial to two forms of inlays, that is, to the simple solder inlay and the sectional hollow inlay, and it does seem to me, if you decide to make an inlay at all in a compound cavity, the most desirable method of all those mentioned is the sectional hollow inlay; its adaptability and the ease with which you get a nice surface finish recommends it in all these compound cavities.

I would like to ask Dr. Rhein a question. In his discussion of the inlay proposition he spoke of the operative inlay—namely, the inlay that is made by condensing gold when the specific gravity was up to 19. I would like to ask if it fitted the cavity perfectly and was properly made, if the specific gravity was 18.5 would it not properly save the tooth? (Laughter and applause.)

**Dr. M. L. Rhein.**

What I meant to convey, Mr. President, was that in making the inlay by the operative means, that should be the object to strive for, to get this specific gravity of 19, for this reason; it is necessary, if the inlay is in a place where it is subject to the strain and stress and wear of mastication, that it should be able to stand that perfectly. If you are inserting an inlay in

a place where it is not to be subjected to this wear and strain of mastication, 18.5, I suppose, would suffice; but in places where I insert inlays of this kind, where they are subjected to this severe strain, I would feel that if they did not go above 18.3, every one of them, I would have very unserviceable inlays. I believe that an inlay can be made by purely operative measures that will be harder and with a higher specific gravity than that of gold where we get it in its molten state, and it is necessary that you get the highest specific gravity possible. You all know in how many mouths an ordinary gold crown will be practically bitten all out of shape after a certain amount of usage, and that is why I dwell upon having this specific gravity up to 19. I leave it to the judgment of the individual; if there were no strain of this kind that would be an outside consideration. (Applause.)

**Dr. Ottolengui.** After that explanation I think Dr. Tracy ought to agree to the proposition and never go below 18.4. (Laughter.)

**Dr. F. T. Van Woert.** If for no other reason than that of expressing my appreciation and gratitude to Dr. Nyman, I am glad that I am here. I think, without doubt, there is no man in the United States to-day who can present so many good things, and so concisely, as our friend Dr. Nyman.

I think to-night, however, he has over-estimated the value of gold inlays; on the other hand, I think that when Dr. Rhein estimates the specific gravity of gold fillings and gold inlays, he has over-estimated both, because an inlay, in my opinion, is nothing more nor less than a cement filling. If you will stop to think for one moment what you are doing when you make an inlay, you will realize that you are simply putting cement into a cavity with a protection or cover which may be of gold, porcelain or whatever you like. If that be the case, it is only a question in my mind as to which is the best cover for that cement, and I am free to confess that I have yet to see very few cases outside of bridge anchorages, even including approximal cavities in molars and bicuspids, where I can not put in porcelain that will do just as good service as any gold inlay.

What we want to do is to get right down to a solid practical basis as to the best possible method of saving teeth and serving our patients faithfully, and I want to tell you, you will never do better than with an inlay. I do not care whether it is gold, porcelain, or what else. If any of you gentlemen have anything that is better, come forward and prove to me that it is better. I do not value the gold inlay any more than I do any of the others, but I have awakened to an understanding of something

that is beyond that, and if we, as a scientific body, are not going to advance, what will we do? If we are going to stick to gold foil all our lives, then that is all there is in dentistry.

It has been said that we do not know of all the failures we make, because those patients go to some one else, but I know that my failures with inlays are at least twenty-five per cent. less than those in any other kind of work I ever did. I went to Chicago and saw the work done by Dr. Taggart and others, and I have been doing it ever since, and I believe that the so-called inlays, really protected cement fillings, have come to stay, although there may be much more of the technique for us yet to learn, and we shall come to know of means by which we can produce fillings of this kind which will be away ahead of what we are doing to-day.

**Dr. Ottolengui.**

Dr. Van Woert refers to a porcelain inlay, saying that no gold inlay could be made where he could not make a porcelain inlay that would do as well, and it is important for us to discuss not only the comparative values of the various gold inlays, but also the comparative value of gold and porcelain inlays, which brings us down to this proposition: When shall we use a gold inlay in preference to a porcelain inlay? Because from a cosmetic standard the porcelain inlay seems to be preferable.

The places where gold inlays are preferable to porcelain inlays are in the posterior portion of the mouth, where there is to be a very large restoration, especially including the morsal surfaces, where occlusion is an important factor, for you can not make as perfect an occlusion with porcelain as with gold, by the methods of gold inlays which have been devised. You can not with porcelain make, primarily, so good an occlusion, and, secondly, having failed in either case, you can perfect your occlusal surfaces better if you are dealing with a gold inlay than you could with a porcelain inlay. Occlusion is a very important matter, and that is one instance in which the gold inlay is preferable to a porcelain inlay.

**Repairing In lays.**

Moreover, it must be remembered that where there is masticatory stress, one element of failure in connection with any inlay is the possibility of the chipping of a portion of the tooth structure itself adjacent to the inlay so that it comes back to you with a little crevice; that crevice is more easily managed if the inlay is of gold because you can then insert a small gold filling which shall be partly anchored into the tooth substance and partly anchored into the gold, which can be cut into, whereas, if you had an inlay of porcelain your anchorage must be entirely in the tooth struc-

ture, or else you must remove the porcelain inlay and make another one.

**Solder Filled Inlays.**

Now in regard to the selection of the gold inlay method. Dr. Rhein has used an argument which is worthy of discussion. He has pointed out that a gold shell crown is very frequently worn through by the stress of mastication, and yet Dr. Rhein is opposed to solder filled inlays, or inlays which have solder at their surfaces, and prefers a 19.03 gold filling—(notwithstanding that we are in 1906). Those of us who have made gold shell crowns have found that we can obviate the wear of those crowns by putting some solder on the inside of them, and that whereas if the soft gold outer shell is worn through, the masticatory stress does not wear through the solder that is under it. Consequently it occurs to me that a 19.03 inlay is not so resistant as the solder inlay to masticatory stress.

I do not believe, and it has not been proven to me, that you can pack matrices with sponge gold and then sweat solder into them so that they will be as solid as if filled with all solder. I believe you have a porous mass there, much worse than the "stink pots" that have been mentioned. But I do know this, that there is a very valuable method that has been entirely overlooked by the gentleman who read this paper. I can make a good deal more out of the little scraps from my inlay gold than I can by selling it to the dental depot. I have my assistant with a blow pipe make up these tiny pieces of pure gold into very minute and perfect globules or shot; it is not my idea that you should take a handful of these shot and sprinkle them into places you may wish to fill, but they are very, very tiny, and they are pure gold; you can drop some of them at the bottom of your matrix, and they give off no oxide. You can flow solder around them thoroughly, because they are globular; they are already solid, therefore you do not have to melt gold into them, but only around them; as soon as they are covered you can add another little row of your shot and another flow of your solder, and that, I am confident, brings a higher specific gravity than the sponge gold method.

**Dr. Nyman.**

I fear if I were to dwell on all the points that have been brought up in discussion and answer all the arguments that have been directed against some of the methods I have advocated I would have to write another paper. There are a few things though I do want to touch on, and one is the question of swedging matrices upon amalgam models. I would advise against using the water bag press. At a meeting held in New Jersey last spring, Dr. Ottolengui stated that he had serious difficulty with the method I had shown previously, because his gold matrices were covered

with mercury. I had never had that experience, neither had Dr. Rhein, and we were a little at loss to account for it. But I had never used the water bag press, having used the direct swedging method, that is, the direct blow with the hammer; and when I went home, I tried the water bag method, and, lo and behold! I found the globules of mercury.

**Choice Between Inlay and Filling.**

As for indications for gold inlays, there are so many points that enter into that consideration that I hardly dare begin to discuss them. In the first place there is the consideration for the patient—that is to say, frequently very sensitive teeth must be excavated to quite a considerable extent for actual mechanical retention of a gold filling, which is entirely avoided in the insertion of gold inlays. Another consideration is, we get extensive cavities which have walls left which we may permit to remain if we use the inlay method, but which we would not dare to allow to remain if we used the gold filling. Furthermore, we damage seriously many of the teeth we treat by keeping them so dry for from two to four hours; many of the pathological conditions found around gold fillings may frequently proceed from the drying out of the tooth during treatment and keeping it dry so long.

We find ourselves among environments in filling teeth where there is no certainty of the operation. You and I, and all of us, have fillings that we never think of but with feelings of apprehension and a prayer that nothing serious has happened to them since we last saw them; and I would far rather trust to an uncertain gold inlay than to an uncertain gold filling. There will be no more failures with the gold inlay process than with gold filling; the careless operator will be just as careless with gold fillings as with inlays, and I believe he will do more damage to the community with his careless gold fillings than with careless gold inlays.

**Choice Between Gold and Porcelain.**

Then we come to the proposition that a porcelain inlay was just as good as a gold inlay. Neither myself nor a lot of men in the West have taken up gold inlays merely because we were attracted by the glitter of gold. Not by any means! Nor because we had no esthetic sense that the sight of a gold filling or inlay could jar upon; but, because we realized that, first and foremost, bicuspids and molars were put in the mouth for service, and not for appearance, and any repairs made to them must be serviceable rather than esthetic. That was because we were meeting with failure after failure in this particular. I found them in my own practice, and I found them in the practice of men who were asserting they had no failures. It was because there were so many failures along the margins of our porcelain inlays that we had,

perforce, to direct our attention to the gold inlay, which entirely eliminated that. There was a logical reason for that, too; it is very seldom that you come across a tooth the morsal surface of which is comparatively flat, in which the cusps are undefined and not prominent. As a rule you find them with marked occlusal contour and high cusps, and in these cases unless you completely obliterate a cusp—unless you completely cut your margin over on to the descending slope of a cusp, you are bound to have a weak margin on your porcelain inlay that invariably breaks down—that is, if you have any mastication on it at all. I have seen some such porcelain inlays which were splendid successes—because there was no tooth below for them to occlude on—but in nine cases out of ten, in placing inlays in bicuspids and molars where the marginal surface is subjected to mastication, you are between the devil and the deep sea. I have frequently taken cases right out of my chair to the attention of some other practitioner who was so very enthusiastic about porcelain inlays, and asked him if he would put a porcelain inlay in such a case, and have had in reply, "Why certainly"; and I have asked him kindly to indicate where he would make the margins of that filling, and, nine times out of ten, there has been indicated a destruction of tooth structure absolutely unjustifiable and unnecessary; and the esthetic effect when it was finished would have been a great deal worse than mine would have been with a gold inlay and a surface of tooth structure that was permissible in such a case. We have taken up gold inlays because we were forced to. The gold inlay will permit the broader beveling of your enamel margin in bicuspids and molars where there is occlusal pressure upon them, and, furthermore, you can, by methods of finishing down gold inlays before the cement is thoroughly set, spin out your gold, as it were, and roll out your cement margin until you get a fine cement margin and better outline than I have ever seen with porcelain inlays. I have sent patients with gold inlays to other practitioners, saying, "I want you to look at this and know that I have not forgotten how to put in a gold filling." One gentleman looked the method all over and said, "I am glad you have not back slid as far as I thought you had," and criticized the filling in some ways; but, although he was a man of pretty good powers of observation, he did not see that cement line. From its general aspect it looked like a gold filling in every particular, and he took it for granted that it was one. There are very few porcelain inlays in which you could not, with the naked eye, find a cement line; and, as Dr. Taggart says, a few weeks later you find a crevice there that makes you dizzy when you look into it. (Laughter.)

I want to congratulate you gentlemen on the opportunity you are soon to have of meeting Dr. Taggart. He is one of the keenest men in

the profession to-day, and one of the most eminently practical men that I know of; he combines brilliancy, ingenuity and practicability more than any other man who ever practiced the profession of dentistry. I bespeak from you a very cordial reception when he comes here, as I understand he will in January. He is a marvelous manipulator of metals or anything else—besides being one of the best fellows that ever lived.

I said there were certain limitations to what we call the gold filling inlays, and one of them is in the very case where Dr. Rhein advocates them both, and that is in extensive restoration. There is just a case where I should say they were contraindicted, because of the fact that even taking gold at its highest specific density it is still too ductile to trust in a place like that. There is danger of splitting off what is left of the tooth wall—there is danger of simply battering that inlay all out of shape. I can obtain very much better results with the hollow inlay that I have described—you get your points absolute, you get your approximal contact, and there is no chance of warping with solder, for there is very little to it. Furthermore, it provides for better means of retention than you get where you have a solid inlay.

I want to correct an impression that has been created by a certain gentleman in regard to this method that Dr. Rhein has recently evolved, and explained here to-night. It is not true that it takes two men and a derrick to get it out, nor that it takes three men and a trip hammer to put it in. I do not wish to do Dr. Rhein an injustice. (Laughter.)

Dr. Rhein has said that gold shell crowns are an eyesore. I don't think they are half as much an eyesore as they are a gumsore. (Laughter.)

The motive I have had in reading this paper has been born of my experience in observing the work that has come under my notice; it has been due to some experience I have had in trying to follow the methods of men who advocate a certain procedure in all cases. I do not expect you to use these complicated methods in cases where the simpler methods are just as available; but I have read this paper to attempt to convert you from using the simple, easy, quick methods in the inlays and which are exemplified by the models I passed around. These models are all practical cases, and I have passed them around for the express purpose of fixing in your mind about where I stand in the matter of gold inlays, so that you would not have the impression that I am an ultra-enthusiast and extremist. These models illustrate the class of cavities in which I think gold inlays are particularly indicated; and it is for that reason that I have read the paper, so that you may see the comparatively easy method of putting in gold inlays compared with the makeshifts which, as I said

before, are only pseudo-successful and are nothing more nor less than an imposition upon the patient.

On motion a vote of thanks was extended to Dr. Nyman for his excellent paper.

On motion the meeting was adjourned.

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## The Central Dental Association of Northern New Jersey.

### May, 1907, Meeting.

A regular meeting of the Central Dental Association of Northern New Jersey was held at Davis's Parlors, Newark, N. J., on Monday, May 20, 1907. The president called the meeting to order. President Marshall then introduced Dr. Stockton, who referred in a few well chosen words to the death of Dr. R. C. Brewster, of Brooklyn, N. Y. Dr. Stockton said he thought it very appropriate that this society should take official notice of the decease of Dr. Brewster; that he felt sure the society was glad of the opportunity of expressing its sympathy at the great loss to the profession caused by Dr. Brewster's death, and paid a high tribute to his memory.

On motion the roll call and the reading of the minutes were dispensed with.

The president then introduced Andrew J. Flanagan, D.D.S., of Springfield, Mass., who spoke as follows:

**Dr. A. J. Flanagan.** It has been my custom for some years to take notes on passing thoughts and events, along certain lines, and later bring forth a paper or address, using those notes as the foundation to build on. When Dr. Meeker suggested that I prepare something relative to the fee question, my note book was perused. I was surprised to find many jottings of a nature to recall to my memory thoughts and events of a seemingly forgotten past. My note book had many question marks after sentences relative to fees. It seems this question of fees is as debatable at the present time as it was twenty or more years ago. In the time at my disposal this evening I intend to give you not a paper or essay, but rather a heart to heart talk.

# Dental Fees.

By Andrew J. Flanagan, D.D.S.

Some four hundred years before Christ the great Hippocrates promulgated what is now known as the Hippocratic oath, as the true guide of the medical practitioner toward his patient. It can safely be said that all so-called codes of ethics from the days of Hippocrates to the present have borrowed more or less from his writings. Briefly stated, this Hippocratic oath is based on the idea that the practitioner himself should always and ever be secondary to the patient. I have no quarrel with Hippocrates and his ethics when considered from the time and environment of Hippocrates and his associates, but when seemingly thoughtful and intelligent practitioners of medicine and dentistry want to apply those ethics in all their entirety, as a guide for the present time and environment in this world, I do wish to take exception.

With all due respect to Hippocrates and his devotees, I wish to promulgate here to-night a new oath—the twentieth century oath—that the dependents and family of the medical or dental practitioner have rights and considerations equal to—aye, greater—than the patient. He who enters any calling or profession to-day and sacrifices knowingly and willingly those dependent upon him, is not living up to the true standard of right and justice that this twentieth century demands. Ethics and morals, in the true sense, are synonymous terms, and are equally applicable to the practitioner of dentistry and his obligations to his family, as to the service he renders his patient. (Applause.)

**Commercialism.**

It is said that we live in an age of commercialism. It is my firm belief that we are relatively no more in an age of commercialism, at the present time, in medicine and dentistry, than we were years ago. The study of the past, while proving that this disease we now call "commercialism" existed then, also shows that the present has only new phases of phenomena of the same old, old disease. Society is so conducted in the ways of publicity at present that it is indeed difficult to live the life of the untruthful and unjust and escape detection and condemnation. That so-called eleventh commandment—"Thou shalt not be found out"—is the most irritating in the whole category of commandments to-day, and all because of this thing we call publicity. May not the many detected violations of this commandment at the present time be the reason of the existence of the pessimist and his pessimism?

There is printed in the city from which I come a dictionary of standard excellence. It is known as Webster's. If you will turn to the word "dentist," you will find the following definition: "One whose business it is to clean, extract or repair natural teeth, and to make and insert artificial ones." I believe this definition of a dentist has been the same in the last three editions of this dictionary, and accordingly has been the means of imparting said definition to many people outside the calling of dentistry. I ask in all candor and sincerity, is the definition correct? If it is incorrect, should it be allowed to go into future editions of this work? May it not have an indirect effect on the question of fees?

The ancient idea of a technical or mechanical training was not of a high order, for we find bondmen and slaves performing most of such work. At the present time in England there is a "snobbery" which says that no man is a gentleman who labors with his hands. England and America have long parted as rivals in the great fight for supremacy in the commercial and industrial world. The Yankee fingers have been too much for John Bull. At the present time the battle royal for commercial supremacy is between America and another nation.

The race in commercial industry and technical pursuits between Germany and the United States is very close, and the reason why Germany is forging ahead to-day is because of its great technical ability.

We had a war some few years ago when the Eastern Yankees—the Japanese—whipped another nation. Did any of you gentlemen ever analyze why that was? Did you ever stop to think that the main point after all was that the Eastern Yankees had a technical ability superior to the other nation? Gentlemen, in America the appreciation of technical and mechanical skill has reached a high standard. It seems to me that if one reads history he must come to the conclusion that America is the brighest star in the whole constellation of nations and the only people under the face of God's sun that honors, as he should be, a man of technical ability—with skill in his fingers to produce in material form something from the ideas and the images of his brain, and to-day America leads the world, not only in mechanical and technical pursuits, but also in that great calling known as dentistry. (Applause.)

The founder of American dentistry as a profession, in 1839, was Horace Hayden, and be it said to the credit of American dentists living in the Connecticut Valley at the present time, that this year will see unveiled in the town of his birth, Windsor, Conn., a monument to his memory. (Applause.)

**Fees Defined.**

In these days we hear the words "price," "charge" and "fee" used, often wrongly, and many times sadly mixed, but I want to read what Webster's dictionary says of fees:

"Fee: A payment for professional services; it may be optional in amount or fixed by custom or law."

Have any of you ever thought of the old idea of what a profession is? Have any of you ever realized the difference between the present and the ancient idea of what is a profession? Really, the only difference is this, that in the olden days the question of a direct fee was not considered; there was what was known as an honorarium. When a person came to a doctor for his services he gave him in payment, if he saw fit, an honorarium, and if he did not see fit so to do, he went away without paying anything whatever; but he received the same treatment in either case. In the light of the conditions of the present century, a comparison based on that condition is perhaps not a just one, because conditions have changed. The present idea of a profession and its compensation is that every professional man should receive such support and revenue as shall come up to the requirements of his living, of those dependent upon him, and so rated that he can lay up something for the end of life.

**Influences of Location and Population.**

As to the fees for dental work: It has been argued for many years that dentistry taken collectively is not receiving the remuneration that it should. Perhaps that is a debatable question, and in its consideration many things must be taken into account. One of the most important things is the question of location. Another is that of population, and last, but by no means least, is the matter of the wages received by that population.

Now, as to the question of location. If a person happens to be located in a small community, where the wage is small, it is an utter impossibility for him to command large fees; as the old saying goes, "You can not get blood out of a turnip," and in considering fees, that should always be taken into consideration.

Then, as to population. The number of inhabitants in the town or city in which one is located is not alone to be considered in applying this test to the question of fees, for many a town of comparatively small population is the center of a very large number of people. For instance, take your city of Newark, where you have a population of about three hundred thousand, and you are the center of fully a million people. In such a situation the question of fees is not a serious one; but if you are located in some small village, with a population of a thousand people, with no industries in the town and the inhabitants dependent on farming, you certainly can not expect to receive fees for dentistry in the same proportion as you would in the large city.

**Influences of Personality and Equipment.**

Another very important feature in the practice of dentistry is that of personality. No matter where the dentist practices, whether in the center of vast population or in a small town, his personality must count. Take two men to-day, one graduating at the head of his class from a dental college; let him be known as a valedictorian, and let his personality be such as would not be acceptable to refined people; and in the same class take the sluggard, he who barely squeezes through and receives a diploma, and let the sluggard have a pleasing, refined and cultured personality; let these two men begin perhaps in the same community, and I will wager that within ten years the sluggard's practice will far outclass and outnumber that of the valedictorian.

Your equipment of instruments and appliances should be complete.

On this point I desire to read to you an extract from the remarks made by a man whom I consider one of the bright minds in the profession and which was published in a journal only this month. He says, speaking on this subject:

"One is, that that source of education which is so valuable and necessary to members of our profession, viz., the sense of touch, is losing that development which it is capable of. For you must know that nearly all reliable and accurate information must be obtained either through the sense of sight or through the finger tips. Now the placing before our students and our practitioners of such arrays of electric and automatic machinery not only fails to stimulate toward the acquirement of that education which we may obtain through our finger tips, but it destroys it, and these most interesting and ingenious machines that are furnished the institutions of learning at a reduced price for which the rest of us pay, are not only not an advantage to the student, but they retard his development toward the point where his ability would be of the highest order to serve the great public whom we so glibly profess to be desirous of serving, and make us more dependent upon those highly generous supply houses."

If my good friend will read the history of the change from hands to machinery in general manufacture, he will find much consolation—a consolation which we now call pessimism. If he obtain his results by hand there are also many others who can best obtain them by the aid of what he might call machinery.

**Education of the Public.**

Let us next consider what we are to teach our patients. It seems to me that the only safe way to teach the public is to show them that the salvation of teeth is the mainstay of dentistry. The question of fees will regulate itself. If you can cultivate in the mind of the person

seeking your services the idea that you are doing that which is best and that which is the accepted practice, the question of fees can be regulated by yourself. I doubt if any intelligent dentist, located anywhere, ever had the unique experience of having a patient pay him more than he asked. When we consider that, speaking generally, the dentist of fifty years of age has seen his best days, we must fix our fees relatively thereto. We must have the public understand that saving of the teeth is the most important part of dentistry, and that it must be paid for. The main reason why so-called prosthetic dentistry has degenerated to the extent that it has, is simply because the public has been taught that it is the material and not the knowledge of how to perform the operation that regulates the cost. To a certain extent that has entered into the specialty of bridge work and into many other specialties of dentistry, and each one of us should so conduct himself and have his surroundings and associations on a plane which will tend to elevate the profession and command suitable fees. If you can only inculcate into the public mind the fact that you have within you that which is best from the professional and from the public standpoint, the question of fees will be of the least importance to you and the patient.

There is no better way of educating the public than through the dental society. There is no better way of arranging the question of fees than by association with your fellowmen, and the time is coming when the strength of a dental society in any State will mean the salvation of the law in relation to dentistry and the making of that which was a trade, a profession, and through our State societies we can regulate the good and welfare of dentistry in any locality.

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## Little Things, or How to Conduct a Dental Practice to Make Money.

By Dr. H. Everton Holsey, Springfield, Mass.

The code of ethics says, "In most cases the patient is unable to correctly estimate the character of the dentist's operation; his own sense of right must guarantee faithfulness in their performance." Also, "A member of the dental profession is bound to maintain its honor, and labor

earnestly to extend its sphere of usefulness." I believe it a most laudable ambition to command every power possible to help one to success. Money is a wonderful power for great good. It will help you to extend the sphere of usefulness to the profession and yourself. It is the power of money that we need. It is possible to command this money power without being commercial.

**Personal Appearance.**

Let us begin the day with this money making dentist. He arises at seven o'clock; one-half hour is devoted to his toilet; a clean shave—no dentist who does not wear a beard has the right to present himself unshaven to a patient; a cold sponge and a good rub. His teeth and hair are given proper attention, he dresses with fresh linen, and a well tailored business suit. Clothes do not make the man, but they play a mighty important part when the world takes a look to size you up. Shabby clothes are no longer an allowable eccentricity of genius. Good clothes are a good investment. The dentist's neckwear is admired or criticized by the ladies more than we know. One two-dollar tie is a better investment than four at fifty cents. He is now well dressed. This one thing is a step to the large fees we find in his practice. He next looks over the morning paper. At eight he has finished a light breakfast. A brisk walk, and he arrives at his office ready and fit for a stiff day's work. At his office he spends ten minutes to clean his teeth, manicure his nails, and douche his nose and throat. He considers his nose and throat require as much attention as his teeth. Stop and think that the patient looks directly into the nose when you are operating. He is sure his breath is not offensive. A deodorant is used before the attendance upon a patient. After getting into a clean operating coat, the morning mail is looked over, and the answers dictated to the lady assistant. At nine he meets his appointment promptly on time. The patient is placed in the chair and made ready for operating by the lady assistant. The dentist steps to the chair and greets the patient with a cheerful good morning and a smile. You can not set a better example to your patients than to meet your appointment on time. Many a dentist has lost good patients by not being on time.

**Equipment of Waiting Room and Office.**

While our friend the money maker is at his chair, let us take a look at his office. His reception-room shows refinement and taste. It has an atmosphere that is restful and pleasing. A five-foot mirror appeals to the ladies. On the center table are fresh magazines, not one that is a month old or dog eared. For the children such books as "Peter Rabbit" and "Squirrel Nutkin"; children just love

these books, and look forward to the visit as a chance to see them. All the odor of the dental office, so offensive to the ladies, has been eliminated. He uses medicaments that produce results without odor. The operating-room is simply furnished, with all the up-to-date appliances. Two duplicate sets of instruments are used, a change being made with each patient, by the lady assistant. Clean, well polished instruments are noticed and appreciated by the people, and they tell their friends. You say you are too busy; excellent proof that you need a lady assistant. You can hire one from five to twelve dollars per week, spend a few hours each week to train her, and you will soon find it a good investment, inasmuch as it gives you more time to make money. A well trained lady assistant can easily save five dollars worth of time in a day. Have a scrub woman do the heavy cleaning once a week. See that your windows are cleaned every two weeks. The lady assistant will do the dusting each day.

**Duties of Lady Assistant.**

What are the duties of the lady assistant? She does the bookkeeping, makes all the records, answers all the leters, answers the telephone, collects, the money, giving the receipts, makes the appointments, sterilizes and polishes the instruments, mixes cements, passes gold for fillings, and many other things of much importance to the busy man. To the dentist who would make money a lady assistant is indispensable. Say your time is worth six dollars per hour; this means ten cents per minute. Consider this, and think what the minutes mean. Any of you would pick up a dime on the street and say, "What luck!" Now most every one of you are wasting three to six dollars worth of time every day because your practice is not well systematized. A card system to notify your patients every three, four or six months, that the teeth need a cleaning and examination, will prove a great practice builder, and be appreciated by the patient. Explain the system to your patient, and how, if the mouth is kept up to date all the time, twenty to seventy-five per cent. of the work will be saved. This system will give you prestige and bind your practice very close. I want to emphasize that this is an important point.

**Estimates.**

Teach the people that you expect a monthly settlement, and see that the bill is rendered promptly on the first of the month. An estimate of the work to be done is one of the best roads to large fees. Tell the patient frankly what the work will cost. Make a chart of the work to be done, and a little practice will teach you to rate yourself and the work. Make the estimate large enough to cover any extra work that may be discovered while you are operating. Never exceed your estimate; rather have it less; the patient is better pleased. Some say estimates are not professional.

Let us see how it is with the medical profession. Here are the facts: you know for the asking that an office call is one dollar or two; a call at the house is two or three dollars. The doctor will tell you that it will cost fifteen to twenty dollars to have your adenoids taken out. This surgeon asks fifty dollars for removing the appendix, or that one commands a fee of two hundred dollars. You can find out before losing your appendix about what it will cost. I believe estimates are professional. Every one of you in the profession asks the other fellow "What will it cost?" when you are having any kind of work done. Why should not the other fellow have the same right to ask you the same question? If the patient is not satisfied to pay your fee, it is tenfold better he should find out before the work is completed. Discussion of fees is always embarrassing after the work is completed. A case estimated is a fee half collected, because the patient knows what to expect. Watch your business and collect your bills.

**Business Methods.**

A daily report of the condition of your business is of great importance. The following system is simple, and shows at a glance the complete condition of the business every day.

| Date | Day's Work | Day's Cash Received | Month's Cash Received | Balance Due on Account | Month's Business |
|---|---|---|---|---|---|
| May 1 | $50.00 | $25.00 | $25.00 | $2000 | $50.00 |
| May 2 | 100.00 | 75.00 | 100.00 | 2025 | 150.00 |
| May 3 | 50.00 | 10.00 | 110.00 | 2065 | 200.00 |
| May 4 | 75.00 | 150.00 | 260.00 | 1990 | 275.00 |

Look this report over each day. If it shows too much money on the books, take action to better the collection. If the report shows that you are not earning as much as last month, you need to work harder; if the report shows that you are doing more than last month, this pleases you. These facts are of importance, if you would make money. You should collect each month a sum of money equal to the month's business. It is best that the patient transact all money matters with the bookkeeper. You will be surprised if I tell you that you lose two to four hours per week because of patients being late, or not coming at all. Say you lose two hours a week. Fifty-two weeks to the year. Fifty-two multiplied by two equals one hundred and four hours lost. One hundred and four hours at six dollars per hour equals $624 lost in one year. Think this over and make a charge for the time reserved when appointments are not met. Business men often say, "I can not make an appointment, I

may not be able to come." Say to these men, "I will place you on my waiting list. Should an appointment be cancelled I will 'phone you." In this way he will be able to have his work done without the risk of a broken appointment. The dentist should receive a fee equal to that of the physician for the same operation. The medical profession has the reputation of being one of the most poorly paid. If this is so, where does the dentist stand? Has the average dental fee increased in the past twenty years? The income of the public has increased. Has the dentist shared in this? His living expenses have increased twenty to forty per cent. If you are not up to date, invest some of your money in a post-graduate course; it will pay better than wild cat mining. Buy your supplies at wholesale rates, not retail. Deposit one hundred dollars with your dental depot; you will be credited with one hundred and eleven dollars and eleven cents. You say you have not the one hundred dollars. Go to the bank and borrow it. To-day you will have to pay six per cent. You can make ten per cent. This is four per cent. net profit to you on the borrowed money. A dentist who can not borrow one hundred dollars has a mighty poor credit. A legitimate borrower doubles his capital and chances for making money.

**Investment and Speculation.**

Before investing borrowed capital, be positive of the safety of your investment. Real estate is one of the safest investments for a dentist. The art of investment is a science. How you would smile if a Wall Street broker were to say, "I am going to open a dental office, I have read a book on dentistry." This is the same smile the broker has when the dentist attempts to make his investment without a knowledge of the business. When you want to invest in stocks or bonds, go to a reliable banker and take his advice. It is his business to know investments. It is not what you earn, but what you save that counts. A dentist should save twenty to forty per cent. of his net income. Savings and safe investments are a combination that will land you in Easy Street. I think it was Holmes who said, "A man's learning dies with him, even his virtues fade out of remembrance, but the dividends on the stocks he bequeaths his children live and keep his memory green." If you would be a money maker read and analyze what success is made of. The following books are all winners: "Pushing to the Front, or Success Under Difficulties," by O. S. Marden; "Ready Money," by Geo. H. Knox; "Success in Life," by Emil Reich; "The Art of Wall Street Investments," by John Moody; "The Pitfalls of Speculation," by Thomas Gibson.

A few suggestions. The language of the face and manner is the instantaneous shorthand of the mind, which is quickly read. The ability

to read people at sight is a great professional asset. Culture indicates superiority, and superiority commands large fees. Cultivate a cordial manner and the personality to inspire confidence; it will double your income. Fortune favors the brave, but it takes a mighty lively pair of legs to catch the golden eagles that lay the dividend eggs. The dentist with a good sized bank account can be of greater help to himself and the profession. To make good you must be able to do the extraordinary operation. Money in the dental profession does not come from doing ordinary work. In the eyes of the world the highest shafts of to-day are erected to the men who deliver the goods.

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At the conclusion of Dr. Holsey's paper he read from the "Journal of the American Medical Association" extracts from an article on a paper by Dr. J. E. Dildy, of Lampassas, Texas, as follows:

"Speaking of the position of the medical profession he says: 'We are professional men in every sense of the word; we have the mental labor of lawyers, the moral standing of ministers, the technical knowledge of organized artisans and the business qualifications of school children. The average man will give a lawyer $300 to $500, together with a lifetime's praise, to keep him out of the penitentiary for from two to ten years, and at the same time he will raise a phosphorescent glow and a kick that can be heard around the world if a doctor charges him from $50 to $100 to keep him out of hell for a lifetime.'"

"The following should be pondered on by every practicing physician: 'The average doctor tries to do too much work. Every doctor wants everybody to patronize him. He likes to be going night and day, rain or shine, Sunday or weekday, hot or cold. This is a business mistake. It wears a doctor to a frazzle. It gives him no time for bill collecting and business matters; no time for patients, who naturally feel neglected and are slow pay as a consequence. A doctor can do better work, more good, and build up a more enviable reputation if he coolly takes his time and is careful and painstaking in his examinations, and if he takes into consideration the pathologic conditions he meets.'"

"Dr. Dildy is entitled to special praise for his honesty and clear-sightedness regarding the value of professional service. He says: 'The prices of our office work and consultations are usually disgracefully small. This "let me see your tongue," off-hand, hurry-scurry kind of professional laziness is not worth the price we get for it. I have lost home, friends and fortune by not examining my patients carefully.' Every physician who is honest with himself will admit the truth of the above statement. Every man knows that when he attempts to diminish the amount of care and attention to details which he gives each one of his

patients, he thereby diminishes the value of his services. He also knows that in the long run the man who takes pains is the man who receives large fees."

"His closing words of advice are: 'Let us do less work and better work. Let us not raise prices until we have raised our standard of service on a par with our ability. Let us work honestly and not get lazy; keep enthusiastic and join our county societies; take post-graduate work and familiarize ourselves with modern medicine. Let us not dicker in futures nor drink booze, but buy books and drink freely of the fountain of knowledge. Let us work some, and play some, read some and collect some, and make money whenever we can.'"

"It is a most gratifying indication of the increased interest in the practical side of medicine that papers like the above are becoming more and more common in our county societies. Every medical organization ought to have, at least once a year, a plain practical paper on these matters from some clear-headed, progressive member, followed by a general discussion from the members of the society. It will be found in many instances that such a programme will help to clear away old animosities and misunderstandings by bringing about a free discussion and consideration as well as stimulating many physicians to a consideration of various phases of these questions, the importance of which has not heretofore been properly estimated."

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## Discussion of the Addresses of Drs. Flanagan and Holsey.

**Dr. B. F. Luckey.**

If any man will bear in mind the points that have been brought out here to-night, given good health and good physique, no matter where his practice may be, provided he is where people live and have teeth, he will be successful. Competition makes no difference. I have often had young men seeking locations come to me for advice, and I have invariably told them to find a locality where there is the greatest number of dentists, for the reason that in localities where there are but few, the people have not been educated to the care of their teeth, while where there are many they have been educated by the precepts and practices of those many, to protect their teeth, and, as you all know, there are always many dissatisfied patients in every practice, and the opportunity of the young man comes if he has the ability and a pleasing personality, and is ready to take care of these dissatisfied people.

The matter of fees is one which is regulated by the man who makes the fee. Any man practicing dentistry or any other profession who so lacks in self-respect that he allows the patient to fix the fee is one whose final downfall is plain to be seen. Every man should have sufficient character and confidence in himself, if he is an honest man, to know the value of his services, and that value is not governed by the fees charged by neighboring practitioners, except in a reasonable degree. A man's fees, in my opinion, should be governed by the amount of work that he can command at the price which he fixes. He should charge a fee that will keep his practice full from the beginning to the end of the day. A man is justified in charging ten dollars an hour, twenty dollars an hour, fifty dollars an hour, or a hundred dollars an hour, if at such price he finds all his time occupied. Of course, a beginner can not so fix his charges, but when his position is established, he can proceed along the lines I have suggested. A patient called upon a certain dentist for an examination, and the dentist, upon looking into the patient's mouth, remarked, "This is awful!" The patient replied, "What is awful?" and he said, "It is awful for me; there is nothing wrong at all; everything is all right." The patient asked if there was any charge, and the doctor said, "Yes; five dollars." "What, five dollars for just looking at my mouth? How can you do such a thing as that?" said the patient, and the doctor replied, "If I were not to charge you for these services, I would never have the time to look at your mouth, for my office would be so filled with people coming to have their mouths examined, I would not be able to find the time to look at yours, and that is the only way I manage to have any time." He was right. We are all justified in making a charge for an examination, and if the patient requires work and has the work done, that first charge may be credited against the work. Dr. Holsey referred to this subject when he spoke of making charges for broken appointments, but he did not make it as strong as I hoped he would. I do not know what the population of Springfield is.

**Dr. Holsey.** Eighty thousand.

**Dr. Luckey.** Then, I think for a man to successfully conduct a practice in a town like that he should charge for examinations and broken appointments.

Now, every man in this room knows that it is personal character and ability that stand for success, and if a man lacks in any one of these qualities he is a failure from the start, and all along the line, with a few spots of sunshine where occasionally undiscerning people fall to his lot; but if he has these characteristics and devotes his time to his profession, he is bound to be, from the very beginning, a successful man and

one who will finish his life with credit to himself and his profession. It is unfortunate for our profession perhaps that its history is filled with the names of honored men who have had most successful practices, and who have then died paupers. Some such men are still among the living, and we have them with us to-day, spending their last few flickering years supported by the charity of others—men who have not hesitated to charge a thousand, two thousand and even three thousand dollars for services to single patients; men who have been accustomed to collect fees of twenty, twenty-five and thirty dollars an hour for many years. It may not seem possible to some of you young men that such as these should die paupers, or be supported in their old age by the charity of their friends, but it is a fact, and if you young men will ponder on the lessons that have been read to you to-night by these gentlemen from Springfield and put in practice the precepts they have preached, then every one of you, given good health and a fair length of life, will not only shed honor upon your profession, but leave behind to your posterity something more substantial than a good professional name. (Applause.)

**Dr. M. T. Schamberg.** I have been very much impressed with these revelations—the discussion before a dental society of something other than a scientific subject, one which should be discussed, as it has been this evening, in a most informal way in order to get the greatest amount of benefit. I do not believe any fixed rules can be applied to every individual. There are some men whose personal appearance would not be compatible with certain attire; there are certain men whose emoluments are such that they are selected by their patients because they are practitioners of a given type, and you can not establish any fixed and fast rules that will apply in the management of the business affairs of everyone, professionally or otherwise. There is, however, much to be learned from a just appreciation of the value of your services. Personally, I believe that both the dental and medical profession man is underpaid. There are very few men in the profession of dentistry who acquire wealth in proportion to the successful men in other walks of life. Then, again, we must conform to the environments in which we live. If we are conducting what might be termed a first class practice, we do not want to feel that those dependent upon us must attend social functions in less attractive attire than others, or be placed in any position where they may be pointed out as unable to cope with their associates.

There is one point that was brought out by both of the essayists which appears to me to be a very important feature in connection with the charge to the patient, and that is the service rendered. If we disre-

gard that, we are perhaps in the position of many of the advertising dentists, who are looking for the only means of arriving at what they call a successful practice—that which brings in revenue for practically as little as they can give therefor. But we are dealing with the subject to-night from an absolutely professional standpoint of endeavoring to give to the patient the best possible service within our power. I have in mind the very thorough technique which we often hear described by the Deans of dentistry as to root canal and pyorrhea work and various other specialties; we sometimes hear a general practitioner say in reference to these subjects that he can not afford to do it, that his patients will not pay the fee required for the time necessary. Gentlemen, if you will do the work the patient will pay the fee. There is no question about it. The main thing to keep in mind is that you feel sure of your ground, of yourself. Whenever a patient comes to you with a difficult canal that needs filling to the end, if you will remember that by spending sufficient time to do the work properly you are averting subsequent trouble, you need have no hesitancy in charging your patient the regular fees per hour, even though the cost of that particular filling comes to fifty or sixty dollars. This may sound to you like an extreme measure, but as a specialist I see the result—and I am really speaking against my own interests when I advocate these practices; but I see the results of work that has failed. A large proportion of cases needing root amputation are due to abscesses arising from faulty root canal filling. These patients come to me with their systems undermined by the absorption of pus, and are compelled to pay me anywhere from fifty to two hundred and fifty dollars for a root amputation. Now, where is the economy? For that reason I feel I can bring a message to you from the standpoint of the specialist, that if the service is rendered the patient will pay the fee. Whenever I charge a fee that may appear large to the patient, it does not worry me one bit so long as I feel that I have given the service that is worth the fee; and I feel that each one of you has a right to maintain his fees at a standard that will make it possible to compete with those in the environment in which he lives—provided he renders the service.

**Dr. Merritt.** I have very much enjoyed the papers to-night, and quite agree with the essayists that it is essential to the successful practitioner that he should attend to what has been termed the business end of his practice. There are some, however, who maintain that there is no difference between the ethics of business and those of a profession, but I do not agree with them; I maintain that the standard of the professional man ethically is far above that of the business man. When we are engaged in professional life we

accept certain things, such as the conservation of the interests of our patients, and put that first; such as going at any time, day or night, on a journey wherever we may be called without considering our own interests; in the regarding of our colleagues not as competitors but as coworkers, and sharing with them any discoveries in dentistry which may arise. These, I feel to be the obligations we take upon ourselves when we enter professional life. In business there are no such obligations. When I enter into a business calling, I do not, in any sense, because of having taken upon myself that especial calling, assume any special obligations such as I do in professional life. Therefore, we should give emphasis to the fact that we are professional men, and that our first duty is to our patients.

With reference to the fees which we charge, I disagree with the men who feel that they should charge by the hour, because at times our services are of such a character that they can not be compensated for in that way, and it is unjust to ourselves and to our patients to try to do so, but I do believe that if we render real service our patients will be willing to pay.

**Dr. Chas. A. Meeker.** No man enters the practice of dentistry simply because he loves it to such an extent as to be willing to practice without making money. I acknowledge, however, that I was brought up wrongly, and for the last five years I have been trying very hard to disabuse my mind of the idea that it is wrong to charge. Many an hour have I worked that I never was paid for, and I am trying at this late day to undo that work. Dr. Flanagan and Dr. Holsey have done a great work for us in presenting the subject to-night as they have, for I do not believe that dentists in this country receive adequate compensation.

It will be unprofessional, of course, to class us in the same category as the members of labor unions and men who charge so much for every item they furnish, as the plumber or other artisan does, but if we were to charge so much for alcohol, so much for gold, so much for the use of instruments, so much for some other part of our expenses, we might perhaps receive more adequate pay for our work.

I agree with Dr. Flanagan when he says that the dental society has cast upon it the duty of educating the public in this respect.

**Dr. Flanagan.** I desire to congratulate the Central Dental Association for two events that have come to my notice. I refer to the honorary banquets tendered by it to Dr. Hull and to Dr. Stockton. If there is one thing that tends to elevate our calling it is the recognition of intrinsic worth in members of our

profession. Both Dr. Holsey and myself have, of course, assumed that each member of this society is a technical man, and that the services he renders are pre-eminently for the benefit of the patient, but we also desire to bring forth the fact that we believe that the business side of dentistry or medicine is important, at least to the extent of providing remuneration to a practitioner for the support of himself and his family in the environments in which they are placed. As Dr. Luckey has well said, many a man eminent in the profession in his day through lack of attention to the business side of his profession has ended his days in the poorhouse, and it seemed to us it is high time that business principles should be inculcated in the minds of dentists.

**Dr. Holsey.** I must confess to being a little bit disappointed in the discussion, for I rather thought that some of these bright and able men of New Jersey and New York would tell us of some of the ways in which they have achieved success. What we need is to get together and have just such heart to heart talks, and I hoped the papers would bring out a discussion from which we could each learn what the other fellow does.

I am a great believer in the theory that it is the duty of the dentist, through his practice, to educate the people to appreciate the work that we are constantly doing. There are many dentists who do not speak a good word for the other man's work when they might easily do so. Of course, there are times when you can not, and then it is better to keep silent. The public is very apt to judge of your profession by what you say of it yourself.

In speaking of the professional side of our calling I agree that perhaps there might be a leaning toward commercialism, but hitherto the leaning has been very much to the other side, and we have made a great mistake in not paying sufficient attention to the business features. When a man is reputed in the community to have a good sized bank account he seems to command the respect of many of the people; he may not be as good professionally, nor give as good services to his patients as some others, but assuming a man does give his patients good services, he has a good deal better chance of success if he is reputed to have a solid bank account than the man of equal ability who has not that reputation, for the world goes to the successful people. The man on top who has more to do than he knows how to look after, is the one that is sought after, and we should educate the public to the feeling that there are more of these top-notchers in the profession. Let the man who is on top boost the other fellow along.

This same subject is being taken up and considered by the medical profession, and the time is very near at hand when the business side of all professions will receive more attention than it has. We need moneyed men in the profession, we need their wealth to help the profession along, and with their aid the profession can be elevated from the rut it now occupies, for, as I said in my paper, money is a great power for good.

On motion a vote of thanks was then tendered to the essayists of the evening.

# EDITORIAL

## National Dental Association Meeting.

The National Dental Association meeting, held at Minneapolis during the last days of July, did not attract the large attendance which should be the reasonable expectation in connection with the representative association of American dentists. Nevertheless a great deal of business was transacted, the resolutions reported by the Council being the most important coming from that body in years.

The President's address was a scholarly presentation of the present conditions, and discussed the urgent need for a larger and better organization. He made a special plea for closer relations of local societies with State societies, and of the latter with the National. A communication having the same object in view was received from the Illinois State Dental Society, and is of sufficient importance to command wide attention and study. It reads as follows:

**Communication from Illinois State Society.**

The Illinois State Dental Society, at its forty-third annual meeting at Quincy, unanimously passed the following resolution:

*Whereas,* the Illinois State Dental Society, at its annual meeting in 1903, expressed the urgent need felt by its members for a better organization of the profession of

the State by the appointment of a committee to devise plans for increasing the membership of the Society, and at its annual meeting in 1904 adopted certain amendments to its By-Laws and appointed a committee to reorganize the Society on a plan similar to that carried out effectively by the medical societies of many States under the direction of the American Medical Association, and

*Whereas,* as a result of this reorganization work the paid membership of this Society was increased from 274 in 1904 to 1,300 in 1905, and further increased to 1,400 in 1906, and there is every prospect that this large membership will be kept up, and

*Whereas,* there has been a decided advancement of the profession of Illinois as manifested in society work, good fellowship, the passage of better legislation, the prosecution of illegal practitioners, etc., and

*Whereas,* the Secretary of the Illinois State Dental Society has during the past year received and answered letters of inquiry regarding this reorganization work from officers or members of dental societies in the following States, several of which have already adopted similar plans: Vermont, Pennsylvania, North Carolina, Florida, Ohio, Michigan, Indiana, Kentucky, Mississippi, Wisconsin, Iowa, Missouri, Kansas, Nebraska, Oklahoma, Texas, Minnesota, Colorado, Washington and California. Therefore, be it

*Resolved,* that the President of the Illinois State Dental Society shall appoint a committee to call the attention of the officers and members of the National Dental Association to this work, with the request that that body take action intended to bring about as rapidly as possible the reorganization of other States on a uniform plan, to the end that there may be established a similar relation between the National Dental Association and the various State organizations to that existing between the American Medical Association and the various State medical societies.

Presented by G. W. Dittmar, G. N. Johnson, J. K. Conroy, Committee.

**National Association Journal.**

The project aiming toward the establishment of a journal of the association was again discussed, and a step in that direction taken. It was resolved that a part of all annual dues received during the coming year should be set aside as a nucleus for a Journal Fund. The question of a journal, and of the enlargement of the National Association, are so closely interwoven that they may best be discussed together. Just what the scope of the journal is to be seems not as yet to have been decided. If it is to be exclusively devoted to the transactions of the National Association, starting perhaps as a quarterly, which would be a conservative procedure with a limited capital, it is manifest that it would not attract a large circulation outside of the asso-

ciation's membership, and, therefore, the success of the venture would largely be proportional with the enlargement of the list of members.

Even if a journal of wider scope and more frequent appearance be contemplated, it is manifest that the foundation of its subscription list and support must rest mainly upon the membership of the National Dental Association, at present about seven hundred.

The pet argument of the advocates of a National Association journal is that the American Medical Association has its own organ. All these apparently overlook the obvious corollary that if we are to imitate the Medical Association by publishing a journal, we must likewise copy their organization, which is so framed as to comprise the largest possible membership, a definite part of the fees for which are compulsorily applied to the support of the magazine.

Thus the communication of the Illinois society, which in effect proposes that the National Dental Association should aim at a reorganization in imitation of the American Medical Association, is most timely. In spite of the fact, however, that many State societies are considering the plan of the Illinois society, several years must necessarily pass before the State societies throughout the country can all be reorganized, and meanwhile the prospect for a National Association dental journal will languish unless some means be immediately adopted which will at once increase membership without militating, later on, against the complete reorganization along the lines of the Medical Association. At present membership must come through delegates from State societies, allowed in a limited proportion. Might it not be a feasible plan to create an Associate membership, with annual dues of three dollars, to which all members of State societies would be eligible, two dollars of the dues being applied to the magazine fund, the Associate member obtaining the journal and all rights of membership except voting and holding office?

**San Francisco Relief Fund.**

The committee to whom was entrusted the various sums collected for the benefit of dentists who had suffered from the California earthquake forwarded a report announcing a balance in hand amounting to about three thousand dollars. They suggested that this sum be paid into the treasury of the National Dental Association, to be

held in trust for the benefit of future sufferers, or for unfortunates such as may be deemed worthy of assistance. This seemed an eminently wise proposition, and was adopted, and thus a nucleus has been formed for a special fund for the assistance of the needy, a fund which probably in time will grow through gifts and legacies.

**Educational Scheme Condemned.**

An alleged educational project which has recently been promulgated, carrying the name of a proprietary mouth wash company, was condemned in a special resolution reported by the Council, because it had been widely rumored that the concern would have the support of the National Dental Association. The Council very wisely in this manner afforded the Association an opportunity to discountenance the coupling of a trade name with a work, which, if needed at all, should be conducted in such manner that the interests neither of a trade house nor of individual dentists would be advanced under the thin disguise of aiding the public.

Ever and anon we hear a cry "Educate the public." A close scrutiny of every such proposition has invariably disclosed a selfish interest in the background. Usually the advocates of lectures on "Oral Hygiene" or on "Care of the Teeth," generously offer themselves to do the lecturing, but never in localities far from their own offices. The latest scheme, being backed by and named after a mouth wash, would necessarily serve as an advertisement of this proprietary preparation, notwithstanding the fact that the projectors strenuously deny this. The matter can be easily tested. It has been declared that the mouth wash house has contributed $50,000 toward this purely humanitarian scheme, not for advertising purposes, but as a slight acknowledgment of the debt which that house owes to dentistry. Now that the National Dental Association has refused to be associated with the movement in its present guise, if it be really true that no advertising is required, why not donate that $50,000 to the National Dental Association, on condition that the Association should undertake the work in its own way?

**Committee on Reciprocity.**

A communication was received from the National Associations of Faculties and Examiners proposing that a committee of nine should be appointed, three from each of the associations named, and

also from the National Dental Association, said committee to report next year as to the possibility of creating a National Board, whose examination certificates would enable the holder to obtain license to practice in any other State without further examination. The idea seems to be to study the system of license exchange in the Dominion of Canada and to determine whether or not it would be applicable under the laws of the States. The object is good, but its consummation very doubtful.

**Odontographic Society Communication.**

The Odontographic Society of Chicago suggested the appointment of a standing committee to investigate cements, amalgams and other proprietary preparations, with the idea of making such reports thereon as would enable the practicing dentists to know which are reliable. This was referred to an appropriate committee.

**Death of Prof. W. D. Miller.**

The most startling incident of the meeting was the wholly unexpected announcement of the death of Prof. W. D. Miller. Only recently Prof. Miller returned to America to accept the deanship of the Dental Department of the University of Michigan. He was likewise to have been the principal essayist at the Jamestown Convention. Dr. Burtown Thorpe, reporting for the Committee on Organization of the Jamestown Convention, astounded the assemblage by stating that Prof. Miller had endured an operation for appendicitis and had died a few days later. Appropriate resolutions were passed as soon as those present could recover from the first shock of the announcement.

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## The Jamestown Convention.

The Jamestown Convention promises to be a grand success, in spite of the tremendous loss which it has endured through the death of Prof. Miller. Considering the fact that there are to be but four essayists, the Organization Committee might well have been staggered by the loss of its chief essayist, Prof. Miller, at a date so close to the meeting. But the news came during the special meeting of the Commitee at Minneapolis,

and steps were promptly taken to strengthen the programme. The Committee still hope to have Prof. Miller's paper for presentation, and will be honored by being able to include in its transactions the last work of this great contributor to dental scientific knowledge. In addition, however, arrangement was made with Dr. W. H. Taggart to give a special clinical lecture at which he will show his perfected casting apparatus, and will demonstrate and explain his technique not only of casting gold and other metalic inlays, but also the ease with which clasps, dentures and bridges may be cast in solid pieces, thus obviating the use of solder. The other essayists are as announced in the programme, printed elsewhere in this issue.


## Prof. W. D. Miller.

During the meeting of the National Dental Association at Minneapolis, the death of Prof. W. D. Miller was publicly reported. The announcement came as a profound shock, as practically none present knew of his illness. Prof. Miller was operated on for appendicitis at the hospital in Newark, Ohio, on July 22, and conditions found were such that the physicians knew his life was in danger. Two days later, there seemed to be an improvement, and hope for the best was encouraged, but the heart's action slowly weakened, and he died on Saturday, July 27. Prof. Miller had been ill only a few days, and the gravity of the situation was not realized. It is probable that Prof. Miller's objection to an operation delayed surgical interference till it was too late to save his life.

Professor Miller was born August 1, 1853, near Alexandria, Ohio. He attended the University of Ann Arbor from 1870 to 1875, and graduated from there with the degree B.A., "with eminent rank." During the winter of 1875-1876 he visited the University of Edinburgh and attended lectures on mathematics, physics and chemistry, and received honorable mention for work in the laboratory and the prize offered by Professor Tait for the best essay on a specified subject. In 1876-1877 he attended lectures of Helmholz, Kirchholf, Wangerin, etc., at University of Berlin, but owing to illness was obliged to return to America, and matriculated at the University of Pennsylvania, from which he received the degree of D.D.S. in 1879, and a prize for the best essay on "Conservative Treatment of the Dental Pulp."

He again returned to Germany, and in 1884 was made professor of operative dentistry at the Department of Dentistry of the University of Berlin.

In 1885 the University of Michigan conferred the degree of Ph.D. upon him. In 1887 he was promoted as M.D. at the University of Berlin, with the predicate *"magna cum laude,"* and in 1894 was made extraordinary professor in the medical faculty of this university. For ten years he was state examiner for operative dentistry in Berlin.

In 1901 the Trustees of the University of Pennsylvania unanimously voted to confer the honorary degree of Bachelor of Science upon Prof. Miller in recognition of his services as an investigator. He was the first graduate of the Dental Department of that university to be so honored. At the 1906 meeting of the New York State Dental Society he was made a Fellow of the New York State Dental Society, and awarded the society's gold medal "for distinguished contributions." In 1907 he received one of the special diplomas of honorary membership conferred by the *Société Odontologique de France,* being the only choice from Germany. Prof. Miller was an honorary member in twenty-one different societies in nine different countries.

At the time of his death he had just returned to America to assume the position of dean at the Ann Arbor school, and had also been counted on for the principal essay at the Jamestown Convention.

Prof. Miller's fame as an investigator will be imperishable, and his contributions to the knowledge of the etiology of caries, erosion and other causes of tooth destruction will long remain classic.

He leaves a widow, one son and two daughters, one of whom is the wife of Dr. Walter G. Cady, Middletown, Conn.

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## Thomas Palmer, D.D.S.

Dr. Thomas Palmer, one of the oldest dentists in Massachusetts, died at his residence in Fitchburg, on June 18, at 11 P. M.

Dr. Palmer was born on June 26, 1820, at what was then known as "Notown," but now a part of Leominster. He was a descendant of the third generation of John Palmer, who came from England early in the eighteenth century. He commenced the study of dentistry with a number of the Shirley Shakers, with whom he remained several months. He later studied with Dr. Samuel Ewers and Dr. Ambrose Lawrence, of Lowell, Mass. After practicing several years, he took a course at the Baltimore College of Dental Surgery, from which he graduated in 1847. He was a friend of Wm. T. G. Morton, who discovered the use of ether as an anesthetic and from him learned to administer it. Dr. Morton furnished Dr. Palmer with an inhaler which he used to administer ether, and which he carried with him when he went to Baltimore to take his course. He gave a successful demonstration, administering to a negro slave, who had a tooth extracted, using his inhaler, at the Baltimore College of Dental Surgery in the presence of Professors Chapin A. Harris,

Thomas R. Bond and Amos Wescott. Upon his return to Fitchburg in March, 1847, he administered ether for a physician to perform a surgical operation, probably the first etherization for surgical work in Fitchburg outside his office.

Dr. Palmer was married in 1846, and is survived by his wife, one son, Dr. J. N. Palmer, of Fitchburg; two daughters, Mary C., wife of Dr. C. W. Partridge, of Lawrence, Mass., and Emma R., wife of A. N. Lowe, of Fitchburg.

His intellectual, mechanical and physical characteristics were marked, accounting for the high standing which he held both in his profession and the community. His office for fifty years was the rendezvous for dental work of Fitchburg's most aristocratic and wealthiest citizens, and the prestige of this office is being fully maintained under the management of his son, Dr. J. N. Palmer, and grandson, Dr. Erwin F. Lowe.

A. E. G.

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## Dr. Isaac Strickland.

Dr. Isaac Strickland died in Bangor, Maine, March 19, 1907. He was born in Turner, Maine, January 31, 1831, and was educated in the public schools of Livermore, Kents Hill and Bangor High School. He went from Bangor into a dentist's office in Boston, May, 1848, and remained there until the summer of 1853, when he came to Bangor and commenced the practice of dentistry. He had a very successful practice until 1901, when he retired. He was in the Army three months as quartermaster of the Sixth Maine Regiment in the War of the Rebellion. In October, 1861, he was taken very ill with chills and fever, and resigned. He served four years in the city government, then in the Board of Aldermen, and was chairman of the committee that built the grammar school building at Union Square in Bangor. He was a director in the Bangor & Piscatiquis Railroad for three years. He was a member of the Loyal Legion and of the Maine Dental Society. He was married to Frances A. Wing, daughter of Hon. A. A. Wing, in 1859. They had one daughter, Mrs. J. E. Tucker, now living in Summit, N. J.

# SOCIETY ANNOUNCEMENTS

## National Society Meetings.

Jamestown Dental Convention, Norfolk, Va., Sept. 10, 11, 12.

American Society of Orthodontists, Detroit, Mich., Oct. 2, 3, 4.

## State Society Meetings.

Northern Indiana Dental Society, Peru, Ind., September 17, 18.
Fourth District Dental Society, Schenectady, N. Y., Oct. 15, 16.
Northeastern Dental Association, Portland, Me., Oct. 16, 17, 18.
Virginia State Dental Association, Jamestown, Sept. 10, 11, 12.

## Program for the Jamestown Dental Convention,

### Norfolk, Va., September 10, 11, 12.

OFFICERS.

Hon. President, Dr. J. Y. Crawford, Nashville, Tenn.; President, Dr. V. E. Turner, Raleigh, N. C.; First Vice-President, Dr. B. Holly Smith, Baltimore, Md.; Secretary General, Dr. George F. Keesee, Richmond, Va.; Treasurer, Dr. Mark F. Finley, Washington, D. C.

PROGRAM.

Tuesday, September 10, 1907, 9.30 A. M.—Meeting called to order by Dr. Burton Lee Thorpe, St. Louis, Mo., Chairman Committee on Organization. Invocation, Rev. Dr. C. L. Bane, pastor Memorial M. E.

Church, Norfolk, Va. Address of welcome, Hon. Harry St. George Tucker, President Jamestown Exposition Co. Address of welcome, Hon. Claud A. Swanson, Governor of Virginia. Address of welcome, Dr. Edward Eggleston, President of the Virginia State Dental Association. Address of welcome, Dr. Joseph W. Eggleston, Richmond, Va. Address of welcome, Dr. W. G. Mason, Tampa, Fla., President Southern Branch N. D. A. Address of welcome, Dr. J. Y. Crawford, Nashville, Tenn., in behalf of the profession of the South. Response to the addresses of welcome, Dr. J. D. Patterson, Kansas City, Mo. Address by the President, Dr. V. E. Turner, Raleigh, N. C.

Tuesday afternoon session, 2.30 P. M.—Clinics in Convention Hall. Dr. Clarence J. Grieves, Chairman, Baltimore, Md.

Tuesday evening, September 10, 8.00 P. M.—Smoker at Inside Inn. Dr. B. Holly Smith, Chairman, Baltimore, Md.

Wednesday morning, September 11, 9.30 A. M.—Illustrated lecture, Dr. F. T. Van Woert, Brooklyn, N. Y., "Is the Cemented Filling the Filling of the Future?" Discussion opened by Dr. Wm. K. Slater, Knoxville, Tenn., Dr. Craig M. Work, Ottumwa, Iowa.

11 A. M.—Illustrated lecture, Dr. Chas. L. Alexander, Charlotte, N. C., "Gold Inlays." Discussion opened by Dr. H. Herbert Johnson, Macon, Ga., and Dr. J. G. Fife, Dallas, Texas.

2.30 P. M.—Clinics in Convention Hall.

8.00 P. M.—Illustrated lecture, Dr. R. Ottolengui, New York City, "The Purposes and Accomplishments of Modern Orthodontia." Discussion opened by Dr. W. O. Talbot, New Orleans, La., and Dr. H. W. Morgan, Nashville, Tenn.

Thursday, 9.30 A. M.—Clinics in Convention Hall.

2.30 P. M.—Special clinical lecture and demonstration by Dr. Wm. H. Taggart, Chicago, "Cast Gold Inlays, Bridges and Plates." Discussion opened by Dr. J. H. Lorenz, Atlanta, Ga., and Dr. L. E. Custer, Dayton, Ohio.

8.00 P. M.—Entertainment given to members and guests of convention by Virginia State Dental Association under the chairmanship of the Society's President, Dr. Edward Eggleston, Richmond, Va.

A cordial invitation is extended to all ethical dentists to become members and attend this meeting.

*All sessions are to be held in "The Convention Hall," at Exposition Grounds. Entrance to this hall is outside of the grounds, thus saving admission fee to enter it; however, entrance to the grounds is possible without leaving the hall.*

To expedite the work before the general sessions all resolutions,

notices and routine business must first be submitted to the Committee on Organization, who at the proper time will present it to the general body.

COMMITTEE ON ORGANIZATION.

Burton Lee Thorpe, Chairman, 305 North Grand Avenue, St. Louis, Mo.; Thos. P. Hinman, Vice-Chairman, Inman Building, Atlanta, Ga.; F. W. Stiff, Treasurer, 600 East Grace Street, Richmond, Va.; R. H. Walker, Norfolk, Va.; J. E. Chace, Ocala, Fla.; Clarence J. Grieves, Park and Madison Avenues, Baltimore, Md.

H. WOOD CAMPBELL, Secretary.

Suffolk, Va.

SURGICAL CLINIC.

The following gentlemen will give surgical clinics: Dr. Trueman Brophy, Chicago, Ill.; Dr. M. I. Schamberg, New York, N. Y.; Dr. W. J. Roe, Philadelphia, Pa.; Dr. V. P. Blair, St. Louis, Mo.; Dr. W. A. Bryan, Nashville, Tenn.; Dr. B. G. Copeland, Birmingham, Ala.; Dr. Wm. T. Nicolson, Atlanta, Ga.; Dr. Fred W. Moorehead, Chicago, Ill.; Dr. Randolph Winslow, Baltimore, Md.

Dr. Schamberg will also give an exhibition of the X Ray for making diagnosis and a clinic with the X Ray showing its diagnostic value in oral surgery.

These operations will be performed in the Operating Rooms of the Norfolk Protestant Hospital, where patients will be cared for following the operation.

It is expected that patients will be furnished all operators, as a committee has been appointed in Norfolk and surrounding towns for this purpose.

L. M. COWARDIN, Chairman Surgical Clinic,
407 East Main Street, Richmond, Va.

## Fourth District Dental Society.

There will be a joint meeting of the Third, Fourth and Fifth District Dental Societies of the State of New York, held at Red Men's Hall, Schenectady, N. Y., October 15 and 16, 1907.

A. S. MOORE, Secretary.

## Northern Indiana Dental Society.

The nineteenth annual meeting of the Northern Indiana Dental Society will be held at Peru, September 17 and 18. The Northern Indiana is noted for good meetings, and this promises to be even stronger than heretofore.

W. R. MEEKER, Secretary.

## Indiana State Dental Association.

The Indiana State Dental Association has begun active work in preparing for a Semi-Centennial Jubilee meeting to be held in Indianapolis, June 4, 5, 6, 1908, celebrating the fiftieth anniversary of the State Association.

## Mississippi Dental Association.

The fourteenth annual meeting of the Mississippi Dental Association, held in Meridian, Miss., May 28, 29 and 30, proved to be the best in the history of the Association. A great many young men were received as members and the membership is double what it was three years ago.

The social feature was a banquet tendered the Association by the Meridian Dental Society, and was presided over by Dr. C. J. Washington, of Memphis, Tenn., as toastmaster, and many well chosen toasts were responded to by the members present.

The following officers were elected:

President, Dr. L. A. Smith, Port Gibson.
First Vice-President, Dr. J. F. Brunson.
Second Vice-President, Dr. C. F. Boger, Natchez.
Secretary, Dr. E. Douglas Hood, Tupelo.
Corresponding Secretary, Dr. L. B. Price, Corinth.
Treasurer, Dr. C. C. Crowder, Kosciusko.

The Association will meet in Jackson next year.

E. Douglas Hood, Secretary.

## Maine Dental Society.

At the forty-second annual meeting of the Maine Dental Society, held at Rockland, July 16, 17, 18, 1907, the following officers were elected: W. S. Miller, Fairfield, President; W. R. Bibber, Eastport, Vice-President; H. A. Kelley, Portland, Secretary; E. J. Roberts, Augusta, Treasurer; D. W. Fellows, Portland, Librarian.

EXECUTIVE COMMITTEE.

F. H. Mead, Bangor, Chairman; E. P. Blanchard, Portland; J. P. Lancaster, Madison; E. L. Hall, Augusta; I. E. Pendleton, Lewiston.